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FEBRUARY, 1890.

THE WEATHER records for the last month in 1889 show that it was the warmest December of this region ever known. And up to the present time—January 7th—the weather continues mild and spring-like, with frequent showers and rainy days. Dandelions can frequently be seen in bloom, and a number of other plants have been noticed showing their flowers.

Further south, in Central and Southern Ohio, fruit trees are reported to be pushing their leaves through the buds, and in Tennessee Peach trees are in bloom.

Fruit-growers are naturally very anxious about the result of the unseasonable weather, and it appears almost impossible that fruit trees should escape injury if severe weather should ensue, as we have every reason to expect that it will. In such a condition of affairs no effectual precaution can be taken, either to check the advance of vegetation or to shield the fruit trees from severe weather that may follow. The fruit-grower who is now experiencing all the ills of a depleted pocket and exhausted bank account, from the little or no returns from his work the past unfavorable season, may be pardoned if he shows alarm at the weather conditions that confront him.

Judging from the observations of many years, the fruit-grower who is so situated that he can raise two or more kinds of fruit, and has some land to enable him to keep profitably some stock, is most inde-

pendent of weather conditions. Poultry raising is frequently united with fruit-growing to advantage, and so is bee-keeping; with proper management they can be conducted so as not only not to interfere, but to be mutually helpful.

The fruit-grower on a small scale, who also is a vegetable raiser for a good market, is comparatively secure, and can adapt his work to a great variety of weather conditions.

With a little more sunshine this weather would be almost perfect for plant-growing under glass, and as it is, gardeners and amateur plant-growers find it comparatively easy this winter to keep up the necessary heat, and the plants grow without check; as a result the flowers make their appearance plentifully. If anything like an average temperature, comparable with the mean of many years, is to be maintained, then we must expect unseasonably cold weather earlier or later; it may be at the close of winter, during spring, or even a cold summer or autumn.

The variation of the planting out season in this climate sometimes, though rarely, amounts to nearly a month. This element of uncertainty is more or less troublesome in raising under glass such vegetable plants as Cabbage, Cauliflower, Celery, Tomato, &c., and the gardener must hold them in check, or advance them according to the indications of the

season. One means of meeting the difficulty is to make a number of sowings of seeds, and at different times. The same remarks apply also to flowering plants raised from seed for the purpose of planting out and blooming in the garden.

As to seed sowing for these purposes the time is now at hand to engage in it generally, and for the next six weeks there will be plenty of such work.

Amateurs may need to be reminded that the present month should see in their seed boxes nearly all those varieties of plants which are to be brought forward for planting out in spring. Care is necessary with all young seedlings to give them plenty of air and to keep them near the glass, so that they shall not become drawn. Just when to sow seeds depends on the locality and the rapidity of growth of the different kinds. Nothing is more beneficial to strong-growing young plants, like the Cabbage and Tomato, for instance, than frequent transplanting, the effect of which is to greatly increase the quantity of roots and to make a short, stocky stem. By this means, too, plants can be held in check to a great extent. Slow-growing plants, or those which develop slowly at first, should earliest receive attention. The Verbena may be mentioned as one which cannot too soon receive attention to secure strong plants in time for the spring removal to the open ground. Pansy seed should be sown as early as possible to get a good start before the hot weather comes. A great variety of seeds should now be sowed where one requires many kinds of plants. Some bedding plants used in large quantities can be raised more easily and cheaply from seed than in any other way; among these may be mentioned the white foliaged varieties of Centaurea and Cineraria maritima. The varieties of Lobelia used in bedding, basket and vase work are propagated in large quantities by seed, and this is the proper time to make sowings. The same may be said of all plants used for the same purposes and raised from seed. Greenhouse plants that are raised from seed, such as the Chinese Primrose, Cineraria, Gloxinia, Cyclamen, Tuberous Begonia, and many kinds of flowering perennials should have prompt attention now, and their seed be sown and carefully watched.

Should the weather remain mild, or at least not become severe, a fine opportunity will be afforded for such out-door work as underdraining, and probably more cultivators have become convinced of the necessity of this kind of work during the last twelve months than for many years previous. There are few places in the country where an investment in underdraining will not pay large profits. A dry, warm soil is the first condition for successful plant culture; with this, the intelligent use of fertilizers and good cultivation almost ensure the profits of gardening, farming and fruit-growing. Underdrained land, as has been frequently demonstrated, will give the best crops, other conditions being the same, either in a dry or a wet time. And this fact is so well known that it is surprising that so many farmers and vegetable growers go on from year to year conducting their operations on lands that are only surface drained. Such a course is a blind and heedless waste of labor; and not only a waste of labor but a waste of manure, for it is impossible to get the full benefit in increased crops from manure when applied to lands lacking proper drainage. The mild winter weather has been favorable to such work as pruning orchards and vineyards, and this work should all be performed and completed in good time before the regular spring work commences. Another kind of work that can now be done to advantage is to haul out the stable manure and spread it on the ground intended for it; if applied to orchards and vineyards it is far better that it should be spread on in winter than delayed to a later period. By the time that the nutrient gets down into the soil the rootlets will be active and ready to take it up.

As to manuring orchards, this is something that is greatly neglected. It has been a very prevalent opinion that when an orchard was once grown it was in condition to go on producing fruit for the whole term of its useful years without any special care in fertilizing; but the experience of the best cultivators disprove this view, and it is shown that the profits of the orchard are greatly dependent on fertilizing, culture and care. A very successful way of maintaining the fertility of an orchard, and at the same time ridding it of wormy fruit, is keeping a herd of

swine in it; this results in manuring, cultivating—by the rooting of the animals—and the destruction of worms in consuming the fallen fruit. But comparatively few farmers having orchards practice this method, nor do they apply manure after the trees have come to their full size. The result is that the apples are of small size, and the whole yield of fruit is much less than it might be. And these remarks apply with equal force to the great majority of vineyards, at least it is so in this part of the country. The cropping is incessant and little or no fertilizing. It is

a very prevalent idea with vine-growers that stable manure is injurious to the vines, causing them to make too strong a growth of wood, and at the expense of the fruit. Extended observation does not justify this opinion; on the contrary, there are few vineyards whose soil is in so good condition that they would not be immensely benefited by all the stable manure that is available for them. The soil of most of our orchards and vineyards is in poor condition, and the trees and vines are not nourished to the extent of their fruit capacity.

THE SPIRÆAS.

The woody Spiræas are among the most desirable of the flowering shrubs, and all of them are dwarf in habit, or comparatively so, with neat foliage and pretty flowers in panicles so large as to make them showy. They are all of easy cultivation, growing thriflily in nearly all kinds of soil. The most of them are hardy over a wide range of country.

The species employed most in ornamental gardening are natives of different countries, usually cool regions. Some are natives of this country and Canada, some of different portions of Europe, some of Siberia, China and Japan.

The engraving here presented shows a good sized specimen of *S. Thunbergii*, as it appeared on the 8th of last May, when in full bloom, at which time a photograph of it was taken. This species is a native of Japan. It grows three or four feet high, has small, narrow, almost linear foliage, and produces a profusion of small, white flowers. It is the earliest to bloom of all, excepting the Double Plum-leaved, *S. prunifolia flore-pleno*, which comes at the same time. Unfortunately Thunberg's Spiræa is a little tender in this locality and elsewhere where the winters are equally severe—the only one of the Spiræas, apparently, not perfectly hardy. The extent of injury does not extend beyond killing back the ends of the shoots a few inches, nor does it affect the bloom on the rest of the plant. Notwithstanding this defect, the plant is so neat and pretty, and so early to bloom that we should dislike to do without it.

The Double Plum-leaved Spiræa mentioned as blooming at the same time as

Thunbergii, is also a native of Japan, but it appears to be quite hardy even far north in Canada. How it may be in Minnesota we are not informed, but think it hardy in all parts of the United States. The name of the plant indicates the form of its foliage—plum-leaved—but plum-leaved only in form, not in the size of its leaves which are about one-half the width and half the length of an ordinary plum-leaf, or even smaller. The flowers are little rosettes about a quarter of an inch in diameter arranged along the slender, willowy shoots so profusely as to make a continuous garland, hence the common name of Bridal Wreath often employed for this variety.

Some of the most desirable varieties succeeding in order, are as follows:

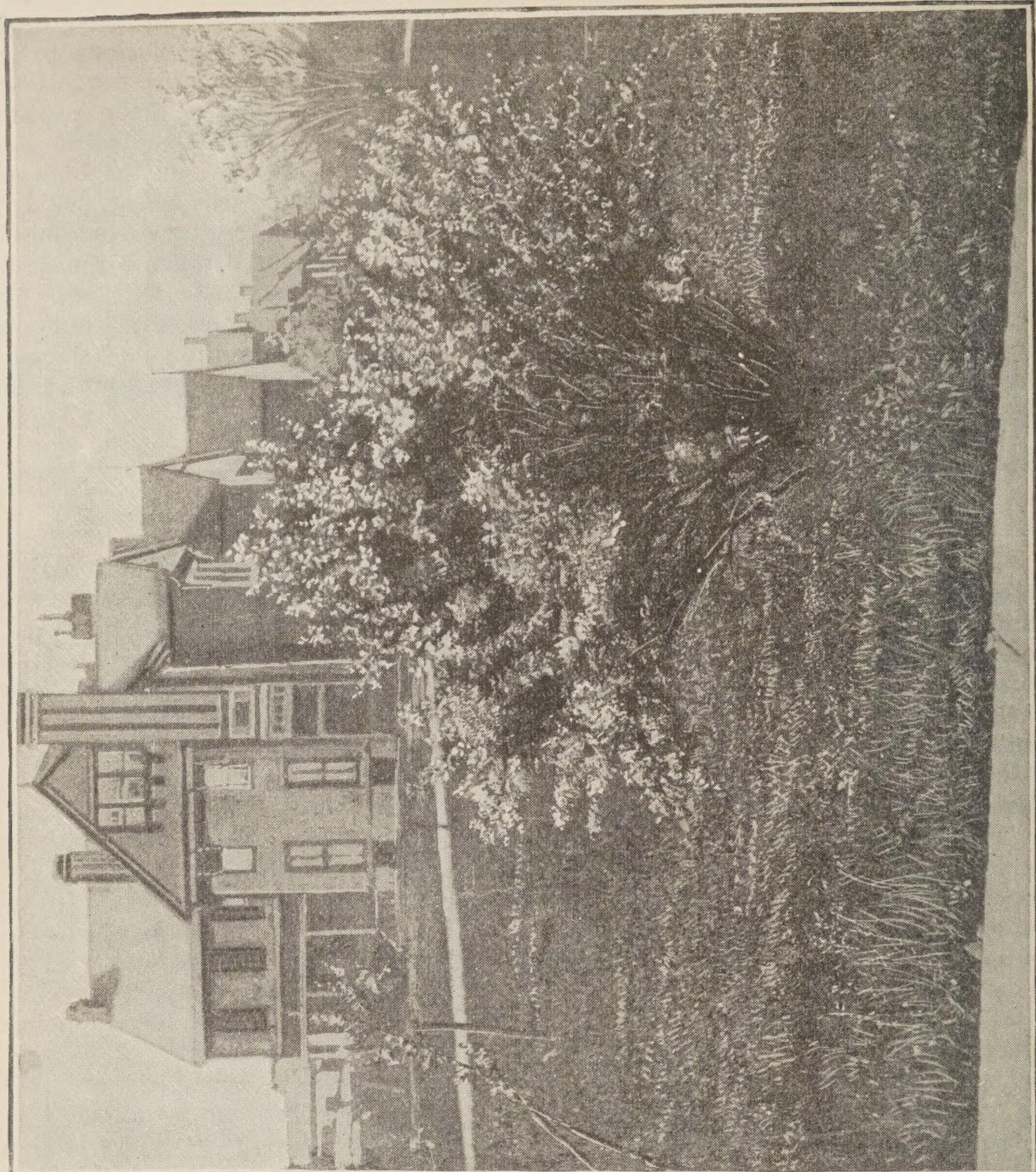
Spiraea Reevesii or *lanceolata*, has large panicles of white flowers appearing to cover the whole plant. A variety of this species, called *robusta*, is larger in growth, with larger flowers, considered harder, and it also blooms a second time. Still another variety of the same species is the Double-flowered. It is one of the best.

S. Ulmifolia, or Elm-leaved, a fine species, with white flowers in large clusters, early in summer.

S. opulifolia aurea. a variety of vigorous growth and golden-tinted foliage, and double, white flowers; fine for contrasting with purple-leaved shrubs.

S. Van Houttei, a charming shrub with handsome foliage, slender branches covered with beautiful white flowers.

S. crenata, a species of dwarf habit, white flowers.



S. salicifolia, or Willow-leaved, a native species, bearing rose-colored flowers that continue into July.

S. Billardii, this and *S. Douglassi* are quite similar; handsome, erect shrubs

with large panicles of rose-colored flowers in July and August.

S. callosa, or Fortune's *Spiraea*, has large panicles of rosy flowers; a variety of it has white flowers.

MOSS ROSES.

The Moss Rose is everywhere held in high estimation. Its beauty lies in its bud, not in the full-blown Rose. The horticultural aim, therefore, with this plant is to obtain a variety the calyx of which shall be as fully beset as possible with the peculiar leafy hairs, or "moss" as it is technically and popularly called. Quite a number of varieties have been originated, but after all there is none which

supersedes the oldest variety of all, the Common Moss Rose. Botanists consider this to be a variety or sport from the Hundred-leaved, or Cabbage Rose, *Rosa centifolia*. When it originated is not known, but it is said that it was taken to England from Holland about the beginning of the seventeenth century. *The Rose*, the book on Roses, by the lamented HENRY B. ELLWANGER, mentions the

Common Moss, the Crested and the Prolific or Gracilis as the "finest varieties of the race." As a class, they should have high culture—heavy manuring—and close pruning; they are somewhat disposed to mildew.

The colored plate in this issue shows the Common Moss both in bud and open flower. The flowers are quite fragrant, and this is characteristic of all the varieties. ELLWANGER & BARRY, the oldest and most extensive rose-growers in the country, name in their list only nine varieties; these are, Blanche Moreau, Captain John Ingram, Common Moss, Comtesse de Murinais, Crested Moss, Gracilis, Lanei, Little Gem, Princess Adelaide, White Bath. The latter is said to be the best white Moss, attractive both in bud and often flower; the white petals sometimes have a tinge of flesh color.

Blanche Moreau is another white Moss, producing its buds in clusters, and well furnished with deep green moss. Comtesse of Murinais is often sent out as a white Moss, but it has a tinge of flesh color. The Crested Moss is a very beautiful variety, rose-colored, fragrant, large and full in the open flower; the buds are quite mossy, and the plant not subject to mildew. This is a very beautiful variety, and is said to have been discovered in 1827, on the walls of a Convent near Freiburg, Germany. Little Gem may be mentioned on account of its dwarf size—a miniature Moss Rose bush, quite compact and bearing profusely small, crimson, double flowers, beautifully mossed.

In the list above referred to are also found Madame Edonard Ory and Salet in the class of Perpetual Mosses. Their buds are not equal to those first named, but these varieties sometimes bloom later in the season, and, hence, valuable on that account, as the others are not to be had. These two are considered the best of all the so-called Perpetual Moss varieties.

The catalogue of the celebrated French rose-growers, SOUPERT AND NOTTING, contains the names and descriptions of forty-three Moss and thirty-nine Perpetual Moss varieties. It will be seen, therefore, that rosarians have not been idle with this branch of their special culture.

Since commencing to write on this subject, the London *Gardeners' Chronicle*—the last issue of 1889—has come to

hand, and on opening it the first thing noticed is an article on Moss Roses, signed "Wild Rose," a pseudonym of a well known rosarian. The occasion of his writing is the fact that a prize of a cup of the value of ten guineas has been offered by Lord COURTHOPE to be competed for at the Provincial Show of the National Rose Society, at Birmingham, on the 16th of next July, for the greatest improvement in the class of Moss Roses. The writer named deprecates giving a prize for such a purpose, thinking that little improvement can be obtained. He says that the form or size of the open Roses are not points that count. "The whole beauty of a Moss Rose is gone when it has opened, and it is only in the bud state that we value it; the moment it expands the moss cannot be seen, and its peculiar charm is gone." He mentions as the best varieties of Moss Rose the following: the Common Moss, Lanei, Moss de Meaux, Little Gem, Baron de Wassenaer, White Bath, Celina, Comtesse de Murinais, Gloire des Mousseuses, Crested Moss and Blanche Moreau. He advises the growing of them on beds, pegged down, and for this purpose plants grown on their own roots should be employed. To obviate the flowerless condition of the beds after the blooming season of the roses is past, he suggests planting Gladiolus between the rose plants, thus giving bloom in late summer and in autumn.

Perhaps this suggestion may not be so valuable in our warm, and often dry summers as in the climate of England.

At the risk of being hackneyed, we cannot refrain from giving in this connection the following excellent rendering of the beautiful lines of KRUMMACHER:

The angel of the flowers, one day,
Beneath a rose tree, sleeping lay;
That spirit to whose charge is given
To bathe young buds in dews of heaven;—
Awakening from his light repose,
The angel whispered to the Rose:
"O, loneliest object of my care,
Still fairest found, where all are fair;
For the sweet shade thou giv'st to me,
Ask what thou wilt, 'tis granted thee!"
Then said the Rose, with deepened glow,
"On me another grace bestow."
The spirit paused in silent thought,—
What grace was there that flower had not?
'Twas but a moment—o'er the Rose
A veil of moss the angel throws,
And, robed in nature's simplest weed,
Could there a flower that Rose exceed?

THE STUDY OF PLANTS.

Looking out over the land from my hill-top, I count one hundred and eighty tracts of forest, which is, of course, far below the real number included within the horizon. Some of the ranges are dark with evergreens, here the groves show by the endurance of their russet foliage in autumn that they are mostly of Oak; there are golden fringes of Aspen at that time, and the brown of other deciduous trees, but to-day all are verdant, the sunlight is sifting down through them all, and "airs out-blown from ferny dells" would be ours in vast volume before we had traversed the whole of them. Such a view, fading to such dim distances, is a good basis for the vision of the great continent, one mass of verdure and bloom from ocean to ocean—a sort of despair seizes me, it seems hardly worth while even to observe the plants and

flowers that occur within my little walks, still less to attempt to speak of them, when, as far as the wind can blow, fresh foliage is waving and new flowers are shining in this same flood of sunbeams. If this grove or meadow were the only ones of their kind, like the one tree of Iceland, a Mountain Ash, which the people are said to wind with woolen cloths to the end of its smallest twigs every winter, lest they lose it, one could go into details then. I almost try, at times, not to see those great white areas spreading over the broad hillsides, looking somewhat like snow, but which I know are a few millions of Ox-eye Daisies, and the long level of yonder field has a golden sheen which comes from



crowding Buttercups, bright and shining, and beautiful, every one, but there are so many of them. Their yellow gleam is before my eyes all the time.

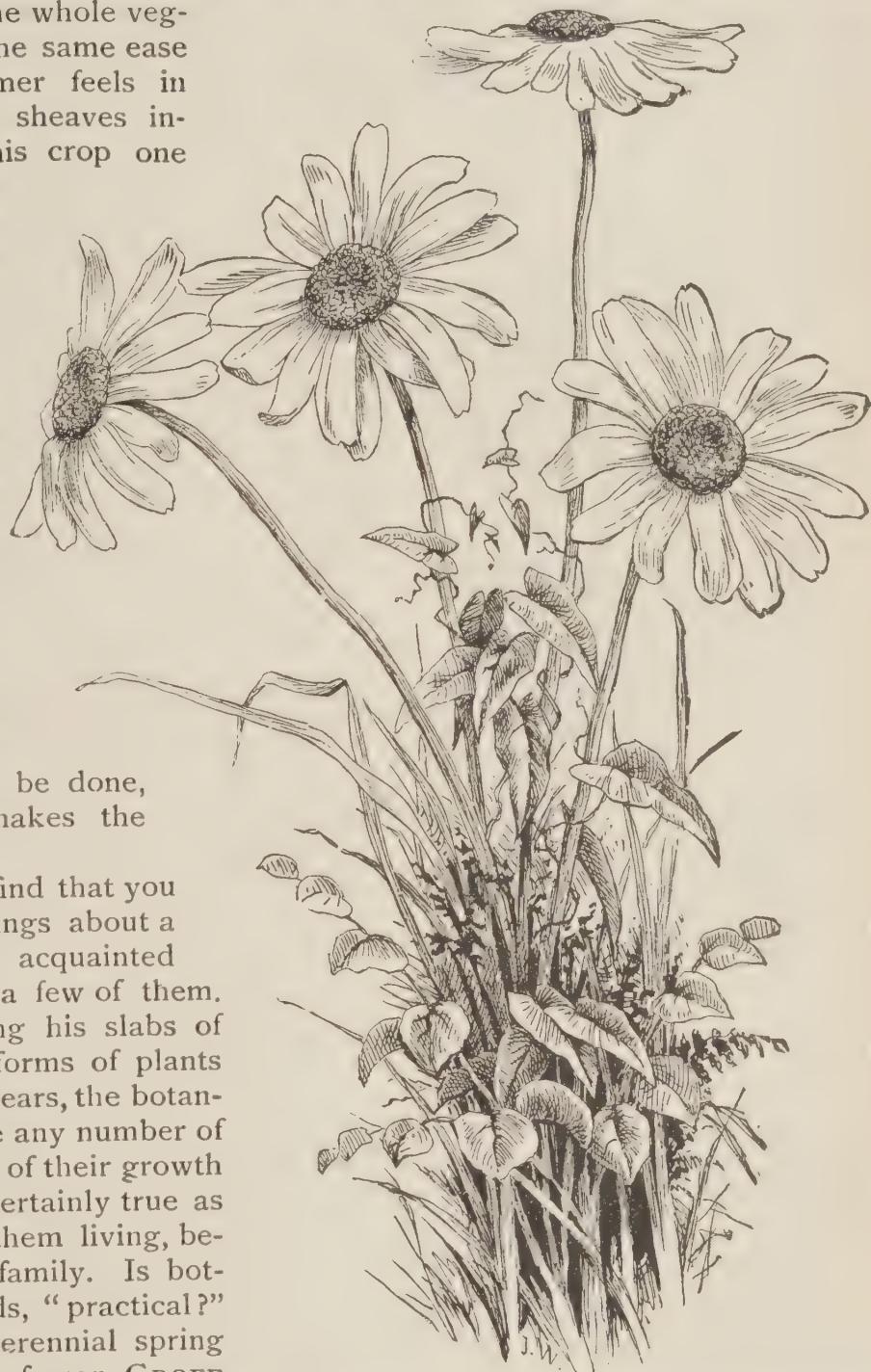
But such moods are transient, any way, and vanish instanter at the sight or thought of anything new; the remedy, if one were really needed, is not to cease looking, for those whose intimacy with the vegetable world is the widest and deepest like it the best. The botanist turned loose anywhere finds endless occupation and pleasure where others would see nothing; the materials of his art are everywhere, and he has much the best, even of the florist, whose happiness may be built on the chance that his new Chrysanthemum, Le Bugaboo, may take the premium over his rivals, Marquis de Squilgee, or some such flimsy foundation, in that a little wild plant or weed, or even something seen through a lens may tint the earth with rose color for the time being. Thus to be able to find pleasure in small and simple things is one advantage of botanical study which is not merely the desert tract of "horrid names," that many flower lovers make up faces at, but the means of an orderly and intelligent comprehension of an immense field whose extent and complexity would otherwise tire us all out with its vast details. Suppose, as you wade through acres of Daisies that you try to recognize and remember each individual

plant; this one by the number of its flowers, that because it grows beside a great rock, and so on. You would be on the verge of insanity before you got across the field. But you, and all others, are botanists to the extent of classifying them as all Daisies alike, leaving you free to enjoy the general effect or the minute details, the mingling of Clovers and grasses with them, and all the sights and sounds of the perfect days when their bloom is new and bright.

What you do in the Daisies' case, perhaps unconsciously and as a matter of course, the botanist does for the whole vegetable realm, finding the same ease and comfort the farmer feels in handling well bound sheaves instead of picking up his crop one straw at once. The sheaf in which the Daisy is bound, by its structure, holds some ten thousand species, with plenty of unexplored lands yet to hear from, from the humblest herbs to the great Daisy tree of Tasmania (Euribia, Mother of the Stars). Not every family is so natural as this, it often takes some little practice to trace a new plant to its family with a synopsis, but it can be done, and every success makes the next one easier.

More than this, you find that you already know many things about a new plant if you are acquainted with its relatives, or a few of them. Let the geologist bring his slabs of stone impressed with forms of plants extinct for millions of years, the botanist is prepared to state any number of facts concerning them, of their growth and reproduction, as certainly true as if he had examined them living, because he knows their family. Is botany, in amateur hands, "practical?" Yes, if to possess a perennial spring of pleasure is so. Professor GROFF

lately essayed to show its immense importance, in the MAGAZINE, for, among other reasons, "plants prepare food for all animals." True, but no animal, quadruped or other, has to be a botanist before he can eat. The veriest clodhopper, armed with merely empirical knowledge of seed, soil and season, can grow Cabbage heads almost as hard as his own without the slightest suspicion that Mustard and Candytuft have the least resemblance or relation to them; if he hoed while you and I were looking up the Cabbage's woodland cousins his crop will be the best. While a botanist will be a "better farmer," in the sense that he will feel better, having opened a new eye which sees endless order, fitness and beauty where the common vision sees nothing whatever. The plow is apt to rest while botanical research is going on. The crops you are trying to grow never will ask how much you know, but how



well you can dig. It is said the first great HERSCHEL, at the outset of his astronomical career, felt the lack of books, but soon concluding "the heavens must contain the best catalogue of stars," he studied it with immense results. The young botanist should be a HERSCHEL to some extent, though some matters technical are indispensable, and it is always allowable to read of foreign plants, and you may read yourself from January to June at will; a book botanist, pure and simple, is hardly worth saving. For your own flora, keep the book for reference merely, and then only in the last extremity. Pick a red Clover head and separate one of the little flowers, note the position of its calyx and count its divisions; look at the number and relative places of the parts of the corolla, count the stamens and notice their manner of growth, and whether distinct or united, observe the young seed-vessel and its relative place. Then compare a Locust tree's flower with the Clover, point by point, or contrast the great seed stalk of the garden Rhubarb with a spike of Sorrel—not the Oxalis, but the other. Now you may call on the book to explain the meaning of what you have seen, with a prospect of learning something to the purpose.

The beginner has a feeling that terms derived from Greek and Latin ought to be infallible, but they are not. Systematic botany has the disadvantage of being created by beings who, instead of knowing everything beforehand, make mistakes at every turn. The wise and perfect nomenclature which nature applies to her organic treasures can never be known to us, and as Dr. GRAY says: "In systematic works every plant * * * must be referred to some species, * * * and in the books one species is as good as another. * * * All the doubts which may have embarrassed the naturalist when he proposed or admitted a new species, the nice balancing of the probabilities and the hesitating character of the judgment, either do not appear at all or are overlooked by all but the critical student. Whether the form under consideration should be regarded as a new species, or should be combined with others into a more generalized and variable species, is a question which a naturalist has to decide for the time being, often upon insufficient and always upon incomplete knowledge, and increasing knowledge and wider observation generally raise full as many doubts as they settle. * * * The patient and plodding botanist spends much of his time in the endeavor to draw specific lines between the parts of a series, the extremes of which are patently different while the means seem to fill the interval."



All this, however except to a few leading authors is of minor importance, and is stated here to modify the mortification you feel on finding that two or more resounding names have been given to the same plant; this, though a drawback, is very far from being fatal, since it is no more the end of botany to give names to a number of beings than it is of social intercourse to do the same thing. In both cases the name is simply a handle to take the man or plant by. To detect natural relation by dint of trained faculty, through a thousand disguises, is possibly a better definition, but the final reason for botanical study seems to be unsayable. You must be content as you become somewhat versed in it, to feel what you never will translate into the language of the market place.

CONCERNING ROSES.

A bed of Tea Roses may not, perhaps, make such a brilliant, showy parterre in the garden as one of Coleus and Geraniums, but it will surely prove to be the spot where the real lover of flowers spends the most time, and finds the most pleasure, for there is always some fresh charm about it; some new waxen bud of "novelty," or an old favorite, just opening; some half expanded flower, rich and full and sweet, whose odor is enticing and intoxicating; some royal blossom which is just the thing for the center of a bouquet you are making, yet which you cut very carefully. There is nothing in the world of flowers which has such an ever-fresh, perpetual, drawing charm about it as a Rose bush; no other flower so dainty and elegant and captivating in its perfect beauty to every sense which it can gratify, as a Rose.

To study and gratify the quirks and tastes and caprices of one's favorite flower is also an unfailing source of pleasure, and I cannot imagine time more pleasantly spent than in working over a rose bed, and watching the response made in growth and blossom, to some anticipated need, new discovery in culture or method of ministering to its comfort.

Tea Roses, like Barkis, are always "willin'" and during the month of June the careless amateur often imposes on good nature by allowing all their buds to develop and expand, even urging them on to extra profuseness and prodigality of bloom by every known expedient. This will give a rare treat for a little while, but the Rose plants will be exhausted, and though they may struggle bravely on and grow a little, will give few flowers, if any, for the rest of the summer. A better way is to remove all the buds which are weak or faulty before blossoming, leaving only such a number as the plant can healthfully develop, and all old flowers should be cut before they begin to fade. Cut these flowers with long stems, thus giving the plant needed pruning, and securing cuttings with the new wood just ripened enough to start roots easily when inserted in wet sand. They root most surely and quickly when not more than one or two inches in length, and should contain a leaf and two buds, the lower one of which

is buried in the sand, the other is in the axil of the leaf. If the cutting-bed, box, pan, whatever it may be, is kept constantly moist, shaded from direct light, and the temperature is a gentle one, wart-like protuberances will appear upon the end inserted in sand in about two weeks, and the cutting is then "calloused." A week or two more and from these little brownish knobs come the white thread-like roots groping about for nourishment, and the plants are ready for potting. Thumb-pots filled with rich clayey loam mixed with sand and charcoal dust, to make it porous, accommodate them very comfortably, and in a little while the axillary buds begin to start new leaves and develop into branches and flower buds. These buds should be removed to allow the strength of the plants to go toward making roots, upon which the vigor of the plants depends. Cut them every time they appear and repot as often as necessary until you have strong plants with well branching tops and thick clusters of rootlets. Then set where they are to grow permanently, and they will delight you for months with their blossoms.

In the South and along the Pacific coast a great many Roses are planted out in autumn, at the beginning of the rainy season, with splendid results. Here, in North Carolina, we are sure of Polyanthas and Hybrid Perpetuals when planted at this time, and I have found many of the Teas newly set to winter nicely, coming through with the evergreen bough protection, such as I gave other Roses, and sending up from strong, sound roots a wealth of blossoms in the spring.

The soil about Roses must be kept loose during summer, and the plants must not be allowed to suffer for lack of water. Moisture and fertility of soil, two things very essential in successful rose culture, may be obtained by mulching the bed during summer with fertilizers from the barnyard. Rains carry the stimulant, in liquid form, down to the roots, ready for them to take up, and the soil, being always porous because of the mulch, is easily permeated and thoroughly saturated by the moisture, instead of being washed barren of its richness.

and left ready for hard baking by the sun, as it would be unmulched.

Some other points in favor of this mulch are the keeping down of weeds, the retention of moisture in the soil during months of drought, for it prevents evaporation, and the absorption of moisture during such a dry time, from night atmosphere and dews. It is very little trouble to spread it over the bed in early summer, and in autumn, when it is no longer needed as a mulch, it may be dug in to still further enrich the bed, for you cannot have a rose bed too rich. A very sunny place is usually selected for a rose bed, and by this means the roots of the plants are kept from scorching heat, and in a much better growing condition.

Keep your Roses clear of other plants when bedded out. Lower and lighter growing annuals and perennials planted beneath or among them take from the soil the tribute and nourishment which they need, and prevent frequent stirrings of the soil; for the same reason keep the grass from encroaching upon large singly planted Roses.

Many different ways for protecting tender Roses during winter have already been given in these pages. The most satisfactory way of all to me is the use of evergreen branches thrown lightly over small plants and stacked about tall ones. In following the thousand and one ways given by different growers, be careful never to put any material in contact with the plant that will retain water and become soggy, ferment, heat or rot; also keep in mind that the object of this protection is not to keep the plant warm, but to keep clear of cold and drying winds and violent changes of temperature.

Some of the new Roses are fine only in bud form, as they open out to be only semi-double. Among these are Papa Gontier and William Francis Bennett; but the beauty of their buds, perfect and elegant in form, lovely, long and pointed, is enough to render them very popular. Luciole has particularly handsome buds of an indescribable color, a mingling of bright carmine, rose and sulphur, bronze and coppery yellows. Most of the Roses and buds now-a-days are too large for the button-hole, but this want will be supplied by the Polyanthas, and two good Roses which have fine buds for this

purpose; they should be pointed, of good form, not too large, and clear and distinct in color. Isabella Sprunt and Madame Capucine have these characteristics.

All the Polyanthas are easy of culture and superabundant in bloom, but M'lle Cecile Brüner and Perle d' Or are the best among them. They begin to bloom when quite small, and grow into neat, dwarf, compact plants—just right for pots and window gardens—which are never without flowers. M'lle Cecile Brüner is very fragrant, its color salmon, heavily shaded with rose; Perle d' Or has flowers a little larger, with exquisite buds in looser panicles, color salmon-rose, shaded with apricot and yellow.

Every season adds a new yellow Tea Rose to the list, but "the Marechal," Etoile de Lyon and Perle des Jardins are still peerless for beauty, though not, alas, for strong and vigorous growth, as they are apt to mildew badly—the last two named—when not grown under glass where they may get the full benefit of sulphur treatment, and Marechal Neil's beauty is a cloak for a very capricious nature. Comtesse Frigneuse is a new yellow Tea that presses closely upon these old standards for the palm of beauty, and surpasses them far in adaptability to soil and climate.

Bronze and coppery shaded Roses were always great favorites with me, and none is more beautiful than Sunset. Madame Falcot and Safrano are also delicious in coloring and steady in bloom. Bougère and Triomphe de Luxembourg of similar tint are new with me, but I hope great things of them.

I saw Cornelia Cook slandered, the other day, as a shy bloomer and slow, weak grower. A little bush, sent me through the mail, last spring, was scarcely without buds and blossoms all summer, and I had to cut many fine buds before full growth and expansion, lest it should die of exhaustion. La Sylphide is another free bloomer, with lovely, pointed buds and delicate yet glowing tints, which I have never seen specially praised any where, not even in catalogues. It is very vigorous in growth and more free of bloom than any other rose in my collection, except Cornelia Cook.

A Rose, however beautiful, which has little or no fragrance, is very disappoint-

ing, and in selecting Roses the careful grower will remember this. Among those usually classed as Teas and Noisettes, La France, M'me Bernaix, Marechal Neil, Cloth of Gold, Catharine Mermet, M'me Welch, Comtesse Riza du Parc, Bon Silene, Devonensis (climber), Marie Van Houtte, Souvenir de un Ami, M'me Bravy and Reine Marie Henriette are most fragrant.

The hardiest Teas are Sombreuil, Sanguinea, Bougère, Homer, Gloire d' Dijon, La Sylphide, Reine Marie Henriette, Gerard Desbois and Madame de Vatry; or, perhaps I should say they are the hardiest among those I have tried, and were selected for planting from Mr. ELLWANGER'S hardy list. This year I am trusting all my Tea Roses to winter's

tender mercies, and I do not think I am risking very much. Marechal Neils are planted here in front of a tall brick chimney, with a full southern exposure, and hardly ever fail to do well trained up over it.

Among Hybrid Perpetuals, new and old, Camille de Rohan is the fullest, most perfect, darkest, richest, most fragrant Rose that I have ever yet seen in the most aristocratic gatherings. Its velvety shadings of black enhance its beauty wonderfully, bringing out in vivid lights and points tints of cardinal and carmine. Gloire Lyonnaise was sent out as a yellow Hybrid Perpetual, which it proves not to be, but it is not a failure, for it is a superb cream-colored Rose.

L. GREENLEE.

FINE ART IN GARDENING.

There is an art in gardening, and whether it is shown in the perfect arrangement, growth and quality of fruit, flower or vegetable, much depends upon ourselves and our efforts as to the result. We cannot become too well acquainted with nature herself to attain this highest possible degree of culture for each of her products. It is not possible for the amateur to become at once the perfect gardener; but much may be gained by continued and careful study and some practice in the culture of the plants most desired. It is well not to attempt too large an experience at the outset, for a few well cultured and carefully tended plants will insure more confidence, and our efforts may be enlarged as our knowledge and skill increases.

The well kept lawn, its smoothly shaven sod, its artistic arrangement of tree, shrub and flower, attest the skill, the

long studied art, the thoughtful care of the gardener whose innate sense of grace and beauty have lent their aid to enhance the effect of the whole. It is a fine art to be carefully neat in every corner of the yard and garden. Crooked beds and misshapen borders slovenly heaped together, and as slovenly kept, with the decayed débris and off-fallings from plant and shrub lying about, do not tend to add to the beauty of the flowers, though they may be rare indeed. The careful gardener is as particular with his borders as with the costly contents of the beds. Even the Currants and Gooseberries are not lacking in interest when carefully trimmed, and will bear the better fruit for the labor. We all know that the grace of window gardening depends largely upon the arrangement of the plants, the kinds kept and the neatness with which each is tended.

H. K.

A HANDSOME BEGONIA

One of the loveliest, and in all respects most satisfactory, of the Begonias recently introduced to public notice, and which will, from its superior beauty of bloom and foliage, supersede many of the favorite varieties so enthusiastically advertised by florists during the past few years, is the Begonia semperflorens gigantea rosea. Rather a lengthy title, but

not half so long as the list of its good qualities would be were they all enumerated. It is a strong, free grower, not hampered by that hesitancy in growth and shedding of the foliage which is, unfortunately, characteristic of a few of the prettiest members of this otherwise deservedly popular class of house plants. The leaves, which are large, are of a

beautiful, soft, light shade of green, having a peculiarity which renders them, as an enthusiastic amateur once said to me, "as pretty as a flower." This peculiarity is a beautiful halo of crimson around the petiole where it joins the base of the leaf. The color also covers the leaf stalk itself, and gives to the whole plant, especially when standing where the light shines through its foliage, a very striking and attractive appearance, so much so that it would be worth cultivating if it were utterly destitute of bloom. No one, though, who has ever had the pleasure of seeing this Begonia in flower, would wish to dispense with its blossoms, however ornamental its leaves might be, for the great clusters of glowing carmine flowers, borne on strong stalks, well above the foliage, make this one of the most showy of the flowering Begonias, if, indeed, it does not excel them all in this respect. The intense color of its large blossoms, so different from that of the usual Begonia

flower, gives to the clusters of that much vaunted and really excellent, house plant, the Begonia rubra, a sickly appearance by comparison, and this is, doubtless, one of the strongest claims that can be urged in its favor, when one considers what a universal favorite the latter has been. Another point which will commend it to all, is the strong flower stalk which renders the blossoms of this plant available for cutting without involving the necessity of sacrificing a whole branch, and perhaps ruining the symmetry of the plant in order to get a few flowers, as is too often the case when attempting to utilize many varieties of the Begonia for cut flowers. Time and space forbid a further description of the merits of this queen of the Begonias, but it is safe to assert that its popularity is only a matter of time, since it but needs to be seen to be appreciated, and not alone appreciated but coveted.

MRS. LUNEV.

CALIFORNIA GARDENS IN WINTER.

A great deal that has been written about the California garden appears to fail in those minute details that are essential to one's pleasure in the picture. I believe in photographic fidelity to the time and place. The San Francisco garden is a very different thing from the Berkeley garden, and the gardens of Sacramento, Los Angeles or Riverside represent widely diverse types.

Niles, where I write this, is a village at the base of the foothills of the southern township of Alameda County. It is only thirty miles from San Francisco, but it is sheltered from winds, almost frostless, and remarkable as a fruit-growing and gardening district. The earliest Peas and Potatoes that reach the San Francisco market come from the warm hill slopes near Niles.

The particular orchard and home garden of which I wish to give some notes are in the valley, half a mile from Niles. There is a greater variety of trees and plants here than elsewhere in the region, but the place presents no unusual features in either soil or climate.

The avenue trees are large Pecans, in bearing, and Japanese Loquats, the latter now in blossom and well covered with

fruit already set. Some of the Pecans are still covered with green leaves, and look as if it were July instead of December; on others, the foliage, green last month, has turned yellow, but the nuts still look green. Last year they fell in January; this year it will probably be February before they ripen.

Near the avenue, to the right as one enters, are Raspberries, Strawberries and Blackberries, all still growing, blossoming and bearing green and ripe fruit. On the left hand are volunteer rows of Peas in blossom, and a patch of late Sugar Corn which still furnishes green corn for the table. Beyond are Squash vines in bloom, and Tomato vines growing rankly and full of blossoms and ripe fruit. Rows of Grape cuttings planted out a year ago have not lost their leaves, and the fresh, green autumn growth is in many cases a foot long. The leaves of the Almond orchard are still green and the buds are swollen, ready to burst.

The Orange grove consists of about sixty trees, twelve or fifteen years of age, and in about eight leading varieties. It was not thought that Oranges would thrive so near San Francisco Bay, and the experiment here has attracted atten-

tion all over the State. Among the varieties planted were the Mediterranean Sweet, the Konah, the Wolfskill Seedling, the San Gabriel, the Navel, the Acapulco, and the Wilson's Seedling. The best of the Tangerine class, the famous small Japanese Oranges, and others were budded into some of these standard trees. Other dwarf Oranges were planted between the larger trees of the grove. At the present time all the trees, except two, are loaded with fruit of a good, fair quality. They suffered from frost when younger, but seem to be safe now. The greatest care has been given to them. They have received water, pruning, the best of fertilizers, spraying to destroy the scale, and the shelter of belts of coniferous trees to protect them on the north and west. It is now one of the best orange groves in this part of the State.

There are four Lemon trees near the orange grove. A few days ago eighty dozen of large and excellent Lemons were picked from these trees and put away to color and ripen. There are many more left, and they will be gathered at intervals for the next six months.

The Japanese Persimmon trees are leafless, but this only reveals more clearly the thousands of flame-colored fruits hanging on the boughs. I counted one hundred and seventy-five Persimmons as large as Apples on one tree, which is less than six feet high, and others, scarcely larger, carry twice as many.

Spring is in the atmosphere. Everything has begun to grow. The ground is soaked by the early rains, and the garden seems to have forgotten to take the usual rest of winter. Roses, Chrysanthemums, Callas, Narcissi, Heliotropes, Catalonian Jasmine, Nasturtiums and crimson Japanese Quinces give the chief impression of color in the garden to-day. But there is much besides, and perhaps nothing more interesting than the Magnolia Halleana, which usually blooms in February on leafless boughs, but began a fortnight ago, while green and yellow leaves were still on the tree. The latter have now fallen, but many fresh young leaves show among the large abundant flowers. Lilacs of all sorts are in bloom, not heavily, but in small, scattered clusters. The Snowballs are almost ready to flower. Spring blooming shrubs of al-

most every species are two months earlier than usual.

Down in the nursery rows, beyond the garden, the notable things of the season are no less numerous. The Walnuts and Figs have lost but few of their leaves; the yearling Peaches have lost none, and are growing straight ahead. One that I have measured has made from six inches to a foot of fresh growth on every branch since the October rains began. The older leaves will fall after a while, but these young shoots belong to the season of 1890. There are young shoots of green on the Currant bushes, though it is scarcely two months since the leaves fell. The young Orange trees in rows in the half acre nursery are growing fast, and even show some flowers.

Beyond the nursery is the orchard of deciduous fruits. Peaches, Plums and Apples are leafless; the Keiffer Pears are still rich with autumnal golds and purples, but most of the pear orchard is leafless also. Some of the Apricots have cast their leaves, others are strangely persistent; on others the buds are swelling fast, and they will blossom soon. Here and there, in Central California, some fruit trees are already showing occasional flower clusters, but not on this farm, where deep and constant cultivation is the rule, and the fluctuations of a dry or wet winter produce less effect.

I have said enough to enable the reader to see what Californians mean by a "mild and early" rainy season. The present winter seems to be one of the best for plant growth for many years. Its most interesting feature is, perhaps, the curious way in which the latent tendencies of deciduous plants and trees have been accented. We never before had Cherry trees hold their leaves till December, but they have this year. We seldom have the grass start in October and grow without check until, by December 16th, it is in many places twelve inches high. The rains are over for the present, and the sky is cloudless blue, so that it seems almost like a New England May-tide. The wild flowers are beginning to bloom on the hills, and the spring bulbs in the garden. The problem is, will the general bloom of the orchards be much, or any, earlier than usual? And will the season of ripening be materially changed? There are many interesting observations for the

botanist and plant-grower connected with such a winter as this. Why should the Japanese Anemone, which has bloomed all summer and stopped a few weeks ago, suddenly begin again? Why are the Spiræas and Japanese Quinces in bloom in December instead of February? And, when so many plants and trees are

stirring with springtime life, so much ahead of the season, why should others lag far behind, and still others behave exactly as they have always done? How true it is that in a garden one finds perennial subjects of interest, and that no two seasons are alike.

CHARLES H. SHINN, *Niles, Cal.*

THE SENSITIVE PLANT.

The Mimosa is one of the most interesting plants of small size that can be grown. I take from a German monthly some points respecting it which may be new even to many who have had full opportunity of observing its curiously singular ways. The quickness and decision with which it lowers its leaflets, and even the main stalk that bears them, as if each turned on a hinge, must be seen to be understood and appreciated. The plant came from Brazil, where it is found in moist, warm ground, sheltered from winds and from too intemperate sunlight by open grove growth of trees.

The leaves open fully only in dryest sunlight and in calm, warm weather, and the leaves are sensitive not only to the slightest touch of a finger, but even to changes of the weather. A lens passed along the rows of leaflets, concentrating and so increasing the heat momentarily, produces a striking effect. Not all of the parts of the leaf are equally sensitive. At the base of the leaf stem a touch on the upper side has no evident effect, but one on the lower side induces a prostration instantly. There are little swellings at the point on which the leaf turns, as if including a hinge, but no satisfactory explanation of the movement has yet been given. DESFONTAINES observed that the plant seems to get accustomed to dis-

turbances, such, for instance, as that of a heavy wagon passing over the stoned causeway, and ceases, after a little, to respond to them until rested.

The time required by the plant to recover itself, and the order in which the parts resume position differ according to the vigor of the plant and the weather or the time of day. It is told of a philosopher who tried to discover the secret of the movement, that he became insane over it. The idea of something supernatural in it seems to have prevailed in LINNÆUS' time, as he called the plant the Mimosa pudica—the chaste Mimosa—and we hear the assertion yet that the leaves drop quickly, or that they don't drop at all when touched by maiden fingers; of course, one or the other of these assertions will prove true in any case.

The seeds of the Mimosa preserve their vitality for years, and if sown under glass quite early, in warmth and with constant moisture, they sprout in about two weeks. The plants can be transplanted into pots, but it is better to put two or three seeds in each pot at once, and so avoid the necessity of transplanting. They require water less often after they have formed plants, but should be set out in the air whenever it is mild enough, and they may be planted out in the border in June.

W.



FOREIGN NOTES.

MANURES.

An excellent article, here reproduced, recently appeared in the *Gardeners' Chronicle*. The writer is J. J. WILLIS, and his statements are so terse and clear that they cannot fail to be appreciated by all who are interested in this subject, as are the cultivators of all kinds of crops.

Manure is not a mere incident of gardening, an item of small account, for upon an adequate supply of this substance depends whether the garden shall be a success or failure—the manure heap is indeed the pivot of successful horticulture.

The price of land, and its rental value are now so great, that we can no longer afford to follow the easy slip-shod practices of our early history, when a moderate crop gave satisfactory returns for the small amount of labor bestowed, the rental value being of small account. Our gardening of the nineteenth century, to be successful, must take a more intensive character, we must have large and early crops or no profit; small crops and late do not pay.

The soil we cultivate may be capable of producing moderate results without much noticeable exhaustion, but the soil that produces extraordinary crops must have unusual natural fertility, or be handled with uncommon skill, and sustained by high feeding.

This uncommon skill is afforded by the keen intelligence of the horticulturist, and the high feeding is obtained by the judicious use of manure.

OBJECT OF MANURES.

To manure the land is a very ancient practice. It was long supposed that the food of such a variety of plants, each with a different chemical composition, as are found in the mixed growth of a garden, must necessarily be different—almost as different as the properties of the plants themselves. But agricultural chemists have shown that the food of all plants is very much alike; though certain classes of plants, owing to their economic requirements, must be supplied with specific substances in greater abundance than others. What is good for vegetables and fruit is not always good for flowers, and this results not from the chemical difference between the constituents of the ashes of the vegetables, the fruit, or the flowers, but from the mode of growth of the various plants, and the particular object we have in view in their cultivation. It is not so much the question of the composition of plants, as of the length of time they may have for assimilating food from the soil that is the important factor in a garden.

THE IDENTITY OF PLANT FOOD.

It has been said by Sir J. B. LAWES that if we thoroughly understood the action of the ordinary manures of the farm, and their influence upon our crops, we should be in a better position to explain the effect of any particular ingredient in the artificial compounds sold in the market.

There are thirteen chemical elements in various forms of combination that are generally supposed to be concerned in plant life. Some are furnished by the free hand of nature in such quantity that the

horticulturist needs take no thought about their artificial supply.

For instance, in the form of carbonic acid, carbon is contained in the air in sufficient quantity to supply any crop, since there are twenty-eight tons of carbonic acid in the air resting on every acre of the earth's surface. Oxygen and hydrogen are provided in inexhaustible quantity, and in just the right proportions in the form of water. One necessary condition of plant life is moisture, and in the presence of water the chemical requirements of growth so far as oxygen and hydrogen are concerned are fully met. The soil also furnishes several of the other mineral elements in sufficient amount. But there are three constituents—potash, phosphoric acid and nitrogen—which are aptly said by Professor KEDZIE to constitute the golden tripod of plant life; these are not only indispensable for all growth, but their limited supply correspondingly limits all the other conditions of growth. In manorial value they hold front rank, and upon their sufficient presence in the soil depends successful cropping, both in vegetables, fruits and flowers. With a sufficient supply of these three ingredients in our soils in active form, there is no limit to production, save those imposed by the physical conditions of growth and season.

DEFINITION OF MANURE.

Manure is any substance added to the soil to increase its fertility by changing its composition, or by affording an increased supply of plant food.

A complete or perfect manure is one that furnishes all the materials necessary for successful plant growth. The best example is to be found in farm-yard dung.

Animal excrements have been recognized from earliest times as powerfully promoting vegetation, and increasing fruitfulness. Dung was the only manure known to the ancients, this being next followed, probably, by the use of chalk, marl and lime.

On very poor soils it is necessary to make a full return of all the elements of plant food removed by the crops; but under the high manuring frequently practiced in garden culture, the contributions to the soil may be in excess of the removals, and the land may be increasing in fertility. In such cases a very partial manuring will suffice, a mere stimulant to encourage extraordinary growth being all that is required.

EFFECTS OF MANURE UPON THE SOIL.

Before entering upon the action of the several fertilizing ingredients contained in manures, we may mention a few facts respecting their behavior in the soil. Having already stated that potash, phosphoric acid and nitrogen are by far the most important elements of plant food, we will confine our remarks to those substances. The two former, phosphoric acid and potash, are perfectly soluble in water, but when added to a soil they enter into combination with it and thus become insoluble.

For example, if a solution containing potash or phosphoric acid be poured on a sufficiently large quantity of fertile soil, the water which filters through will be found, on testing, to be quite free from these ingredients. This retentive power of soils is of great

practical importance in plant growth, especially in the restricted area of pot culture; if it were otherwise, the frequent waterings rendered necessary when limited quantities of soil are used would soon wash away all the soluble mineral salts of the soil, and the plants would starve for lack of nourishment. It has been conclusively proved, however, that if these manuring mineral substances are applied to soils, and for any reason the plants do not take them up, they remain there until they are wanted. It is far different with the third element of plant food which has been mentioned, namely, nitrogen. This substance exists in soils in the form of organic nitrogen, ammonia and nitric acid. By the action of a minute "bacterium," present in all soils, the organic nitrogen and ammonia are oxidized, and their nitrogen converted into nitric acid. This operation only takes place in moist soils sufficiently porous to admit air, hence the immense advantages of thorough drainage. It is further necessary to successful nitrification that some base, such as chalk or lime, be present in the soil.

Of the three substances, then, which constitute the principal food of plants, two are fixed by the soil, while one is liable to be washed away. Nitric acid is said, by Sir J. B. LAWES, to be in a constant state of movement in [the land—at one time washed entirely from the surface by heavy rains, and rising again as evaporation takes place under a hot sun and drying winds. As dark colored soils absorb the greatest amount of heat from the sun's rays, the presence of a certain amount of humus derived from leaf-mold and other decaying vegetable matters, is advantageous both to warmth of soil, and to nitrification, and a very small dressing of readily available food to such soils in the form of nitrate of soda, ammonium salts, guano, rape-cake, or even liquid manure, will be found greatly to promote fertility, and to increase the stimulating power of the soil.

THE TENDER PERIWINKLES.

The following explicit directions in regard to the treatment of the tender Vincas may cause more attention to be given this frequently neglected plant, which is useful both for greenhouse and conservatory decoration and for cut flowers, for, as the writer remarks, "a well grown Vinca will flower for months together without intermission, if proper attention is paid to its requirements." The extracts are from an article that appeared in a late number of the London *Garden*:

Vincas require all the sunlight possible to produce short-jointed wood that will eventually flower well. At no period of their growth is it necessary to shade them at all. Cuttings from old stools should be struck in the spring when the young growth is sufficiently long for that purpose. They strike freely in a brisk heat not too heavily surcharged with moisture. After becoming established in small pots, they should be put near the glass and kept frequently pinched; the point of every shoot should be taken off after it

has made two joints. Thus treated, a dwarf and compact plant will soon be obtained with many shoots upon it. Considering that Vincas grow as freely as Fuchsias in the early period of the year, they want a somewhat similar course of treatment in this respect. As the young plants fill the pots with roots they should be transferred to those of a size larger till they reach a six-inch pot, which will be large enough to flower them in during the first season. The plants the following spring will require to be put into smaller pots and shifted on, just as with the Fuchsias, as growth progresses, still keeping them pinched. The omission of this last piece of advice will result in a straggling plant, which will become unsightly before half the season is over, thus gaining the repute of being a plant of bad habit. When required in flower at any particular period, about seven weeks should be allowed by the cessation of stopping the shoots. Water should be given freely all through the growing season, at no time allowing the plants to suffer for want of it, or the result will be that the leaves will turn yellow and the flowers drop prematurely. When growing Vincas for exhibition some years ago I well remember keeping a plant on the dry side, with the result that the flowers were very small and dropped before their time. Finding out my error, I proceeded to water freely, every day, in fact, knowing that my plant had plenty of roots. The result was soon apparent in finer flowers of the size of a crown-piece. These lasted in good condition for a longer time, each terminal having in many instances three open at once. Close attention when in full bloom is needed to remove all decaying flowers as soon as they become loose. When the plants are in full flower every other watering may consist of liquid manure, not too strong, or the leaves may fall off whilst green. As the plants cease to flower water should be gradually withheld, but not so much as to cause the wood to shrivel. The plants should be kept in the stove during their resting period; removal to a cooler temperature would probably endanger their existence, as it does many another stove plant at such times and under such treatment.

As the plants progress in size, some sticks will be needed to train them to as

bushes. Sometimes I have seen them treated as climbing plants and trained on wire trellises; this latter system is, however, unnecessary, as well as too formal in appearance. Insects are not partial to

Vinca), the subject of the accompanying engraving, is of a most distinct color. *Vinca oculata*, with white flowers and a bright rosy eye, is one of the freest growing, and under good cultivation will pro-



VINCA ROSEA

these Vincas; the usual pest of the stove, mealy bug, where it exists, may trouble them somewhat; so also will red spider. The latter can easily be checked by a free use of the syringe, whilst for the former, the shortest way and the most effectual, too, is to throw the plants away and start with a clean stock. The astringent character of the foliage possibly prevents them in a great measure from becoming too great a prey to insect pests. There are three varieties in cultivation in our stoves of to-day. *Vinca rosea* (the rosy

duce the finest flowers. *Vinca alba*, as its specific name denotes, is a white form, quite distinct, but, unlike many plants with white flowers, it is not quite of such a strong growth as the others or colored kinds.

These Vincas can be raised from seed, which is annually offered by our large seedsmen. If this mode of obtaining a stock is decided upon, the seed should be sown early in the spring, and good plants will thus be secured the first season.

PLEASANT GOSSIP.

CALIFORNIA ROSE NOTES.

I do not think that the occasional reports from California rose fairs, which appear in horticultural journals, give any adequate idea of the enormous extent to which Rose planting is carried on in this State, or of the ease with which the most tender Teas are grown. Perhaps a few notes from some of the gardens most familiar to me will prove of interest to rosarians elsewhere.

It is the 22d of November. The garden where I write this is near the Alameda Creek, in the southern part of Alameda County, about thirty miles from San Francisco. It is about half a mile from the foothills, on warm, rich, alluvial soil, part of the ancient deposit of freshets, and very easy to cultivate. Here the Roses bloom, more or less, all winter. They are gathered every day in the year for the flower vases, and for the wearing of the young ladies of the household. Sometimes a sharp frost in January checks the blooming; sometimes even January has many roses. Among the Roses now in bloom in the garden are Marechal Neil, Pauline, Rosamond, Duchess de Brabant, Appoline, Triumph of Luxemburg, Malmaison, Safrano, Isabella Sprunt, Marie Van Houtte, Jacqueminot, La France, Bergen's Tea, André Schwartz, Reine Marie Henriette and Lamarque. By blooming I do not mean a flower or two, but a good display of buds and blossoms. The Appoline has at least a hundred in sight, one can go back to the Marechal Neil and pick half a dozen good buds in their prime for wearing; the Lamarque has several hundred large buds and flowers.

A little cottage garden in Berkeley, north of Oakland, about eight miles from San Francisco, is worth a word in this connection. It shows in detail the ups and downs of amateur rose culture here. The ground was broken up in the autumn of 1888. About ninety plants were set, in as many varieties. Twenty-five of these were large California grown plants from the nurseries; about sixty were smaller receiv-

ed by mail from several of the best rose-growers East. Five were new Roses from an English grower, sent with other plants by express.

Now for results. Four of the large Roses died. Of thirty-two small Roses by mail, only five were lost, owing to care in starting them. Of a second order of thirty Roses, about one-half died not receiving sufficient attention. Only one of the English Roses died. By Thanksgiving, 1888, some of the large California Roses were beginning to bloom, only six weeks after they had been planted. By March nearly all the large bushes were in flower. By April eight or ten of the small Roses obtained by mail were carrying several buds and flowers apiece. At the present time the garden is full of Roses. The plants received by mail, in November, 1888, are now strong bushes, with seven or eight flowers on each one. Among the newer and most admired sorts are the Viscountess Folkestone, Princess Beatrice, Perle d' Or, Gabriel Drevet, Francesca Kruger, Meteor, Madame Watteville, Comtesse de Frigneuse and Comtesse Riza du Parc. Next season, all these plants obtained by mail will compare favorably with those of the same age grown in this State.

There is a gentleman in Berkeley who has made a specialty of choice Roses budded into large plants of the Banksia. He had a very large white Banksia over his house, and he has budded some twenty-five varieties into this stock, some climbers, some standards. The effect is unique, some vines drooping, some looking like lines of Rose trees between the windows and along the balconies. In April I noticed it, and was especially pleased with the growth from a William Allen Richardson bud; it was some fifteen feet high and eight feet through, a mass of bloom. The Lamarque, Cloth of Gold, Francis Bennett, Marechal Neil, Safrano, Devonensis and Jacqueminot were all large enough to be notable trees in the garden. When the Banksia filled

in the background and interstices with bloom, the effect was very striking. There are several such "rose compendiums" in Oakland. One I have seen has a different Rose in each window, all on one stock.

There are many famous Roses and notable growers on the coast. General BIDWELL'S Gold of Ophir, at Chico, covers more space than an ordinary house. General VALLEJO'S rose hedges, at Sonoma, the Fox Rose bushes at San José, the WILKINSON and CHAMBERLAIN Roses, Berkeley, the PALACHE Roses, Clairmont, the CRANE and HATHAWAY gardens at San Lorenzo are only a few of the hundreds that might be listed. Almost every town and village has its great Rose tree, some day, perhaps, to be as famous as the Rose of Hildesheim, with its thousand years of song and fragrance—the Rose of the Court of CHARLEMAGNE. You will find them in all sorts of out-of-the-way places, in the mining camps, on lonely ranches, in pretty mountain villages, in great wheat-growing valleys.

Roses of the old sorts that were first brought to California in the days of 1849, when they sold for ten and twenty dollars apiece, are still growing and blooming in the grass by the lonely gravestones of the pioneers, on the rain-washed hillsides. I have seen such "Roses run wild," climbing to the very tops of Oaks and Cedars, and blooming as naturally and freely as the wild mountain Lilies or the pale Ceanothus. Sometimes it seems as if such Rose vines were as truly a part of California as the Redwoods and the Grizzlies.

If Californians go on planting Roses at the rate of fifty thousand a year from our own nurseries, besides all that come by mail, and all that people grow for themselves, we shall have a true rose-land here, and that before long. We want Roses by the acre, Rose-hedges by the mile, Roses on the banks of creeks, Roses along the railroad tracks and the highways.

I have often recommended the planting of single Roses, such as the best forms of *R. rugosa*. The old half-double Rosamond is about as free a bloomer and strong, healthy grower as can be found, and its rich, crimson color is almost unequalled for out-door effects. The old Cloth of Gold and the Lamarque can hardly be surpassed for strong climbers

of the easiest possible culture. These sorts will grow as easily as Currant bushes from old-wood cuttings taken in December or January and put in the open ground. The roadside plantings of California must be sorts readily grown on their own roots. The home garden can have all the world's best Roses, but when Roses begin to be naturalized, as Mr. ROBINSON, of the London *Garden*, would like to see them, in all the California cañons, on all the California hillsides, we must not depend on buds or grafts.

California is likely to produce a great many rose seedlings in a few years. There are some good seedlings here, notably those of Mr. E. GILL, of Oakland, and Mr. JOHN SIEVERS, of San Francisco. There are promising rose seedlings, not yet in market, in the hands of growers in Santa Rosa, Sacramento, San José, Santa Barbara and San Diego. Every year more amateurs experiment with out-door grown rose seeds, or try the difficult but fascinating arts of the hybridizer. Would it not be a remarkable development if California were some day to supply the best of the new Roses of the year, and were also able to send car loads of blooming plants all over the United States each winter? It is not impossible that to the success of California in Prunes, Raisins and other orchard and vineyard products, will be added that finer, more subtle success of the Orient—the happy art of the Syrian and Persian—the art of the rosarian.

CHARLES H. SHINN, *Niles, Cal.*

FRUIT NOTES.

Varieties of fruits and the off year; these are ideas that I cannot subscribe to, as there are reasons for both these phenomena when they occur. Nearly thirty years ago the Rambo and the Newtown Pippin had become so poor in some parts of Lancaster, Lebanon and Cumberland Counties, Pennsylvania, that it was said they were run out. It was the same with the Vandevere and Esopus Spitzenburg. The question here comes in, was not the soil exhausted of one or more elements necessary to produce perfect fruit, and the trees not properly treated?

Here, on the bluffs and little valleys along the Missouri, we can grow such Newtown Pippins, Rambos, Vandeveres and Esopus Spitzenburgs as will delight

the eyes of an eastern man, and their quality is equal to their beauty. Our Rhode Island Greenings would not be known if sent east. This shows conclusively that these varieties are in their prime here. Our Winesaps are double the size of any I ever saw in Pennsylvania, and are a deeper color.

As for an off year, there is not a bit of use in having an off year, so far as I have tried it, which has been with Princes Harvest, Red June, All Summer, Summer Queen, Porter, Jonathan, Newtown Pippin, the Henry Pippin, Newtown Spitzenburg and Carolina Red June.

When young trees begin to bear is the time to train them for regular work. So sure as a tree is overloaded, and in a dry season, there will be a failure, or nearly so, the following year, simply because the tree has not vitality left to produce a full crop again. Whenever an Apple tree has set a very full crop the fruit should be thinned out to one-half, or even one-third, of the quantity if it is a large growing variety.

It sometimes happens that I fail to go over all my trees, and an over crop is allowed to mature, and just so sure as this happens the following season is a miss, or a very sparse crop. Some say that in large orchards it cannot be done; but this is a mistake, for if apples are worth growing at all they are worth growing right.

The difference in the time taken to gather the apples in the fall, where one would make the same bulk, along with the advanced price they will bring, will pay for all the labor of thinning out when not quite half grown. Even if done when nearly grown it makes a surprising difference, as I know from experience, when the first thinning was not severe enough,

I practice thinning also on Peaches and Plums. The Golden Beauty Plum usually sets about five times as much fruit as should be left on the tree, and if not thinned out at all the plums are small and almost worthless.

The weather here is remarkably mild. It is the twenty-seventh of December, and for three weeks there has been scarcely any frost. Mercury up to 75° some days. The *Pyrus Japonica* and *Spiraea prunifolia flore-pleno* will bloom if a week more such weather continues. Verbenas and Petunias are fresh out doors yet, and but for a few severe nights

we would still have Chrysanthemums in bloom. Won't the peach buds swell so as to endanger next year's crop? For, of course, we will get severe winter yet.

S. MILLER, Bluffton, Mo.

DINNER TABLE DECORATIONS.

The following description of dining table decorations indicate the latest ideas in the elaborate use of flowers on festal occasions. The instances here described by Z., in the *American Florist*, were at dinners given at Washington in honor of the members of the "International Maritime Congress and the Three Americas Conference."

The table set recently at the "Arlington" was pre-eminently a success. All set pieces were dispensed with. The table was unique in form and the arrangement was certainly highly pleasing. Seventy guests were provided for. The space allotted to each guest was ample. The linen, plate, China and glass were of the finest and the floral artist capped the climax of effective display without in the least impairing a vision of all parts of the table. A border of about twenty inches of the table covered with white linen was allotted for dishes, viands, fruits, etc., tastefully arranged; then followed an inner border of twelve inches covered with olive colored plush—upon this extending around the whole table but made up in sections—of six to ten feet were flat Ivy covered strips ten inches wide in and upon which were imbedded rose-buds in clusters and various other border designs, each section presenting something different, the one being made up of Perles, another of Jacqs and Niphotos, another of La France, etc., not massed designs, but designs rather in groups and garlands, imparting more effect than closely packed buds. The inner court of the table was so sunk and arranged that the crowns of the Maidenhair and other potted Ferns with an occasional delicate Palm, formed a billowy surface on a level with the table top. In this billowy surface liberally, but not too much so, were placed clusters of American Beauty, of La France and of the new Rose, Duchess of Albany, loosely arranged in unseen vases so that the crown of the clusters formed as it were charming mounds throughout the extent of the undulating delicate surface of green. Palms of all sizes and of great variety were disposed so as to form a semi-circular tropical background of rare beauty and effectiveness.

A few weeks ago on the occasion of a dinner given by Secretary BLAINE at the "Normandie," the table was similarly arranged as to floral decorations, only its form being an ellipse. The space in the center allotted to the florist's art was thirty-eight feet long by eight feet wide, which required over six hundred potted Ferns to fill, but the effect, if anything, was decidedly greater, as no candelabras were used, but in place thereof one hundred and fifty incandescent and shaded electric lights were introduced beneath the crowns of the Ferns, affording ample light, obviating all other means of lighting and producing a mellowness of light throughout the apartment never heretofore attained. In fact one of the distinguished guests remarked that he had been dining now for thirty-five years in every quarter of the globe, but never had seen a dinner table so effectively arranged.

A BEGINNER IN FRUIT-GROWING.

NUMBER 4.

This article is devoted to some hints in reference to that culture of the mind which formerly was deemed of slight importance, but is now becoming absolutely necessary to the highest success in many pursuits, and especially in horticulture.

To the horticultural novice there are two easily available methods of obtaining knowledge besides learning the trade by working for or with a gardener. One is by reading, the other by mingling with horticulturists at their gatherings. The writer commenced to raise trees and plants without any practical knowledge of the business, and was dependent upon books and newspapers entirely for information, and although there was not one-quarter the opportunity twenty-four years ago that there is now to gain such information, he very rarely attempted any thing that some light could not be obtained upon by reference to books or newspapers. Such advisers are always at hand, can be consulted in the evening or on stormy days, and cost nothing for board, lodging or advice. Few persons inclined toward horticulture in these days are so backward as not to read the periodicals devoted to their calling, but if any of my readers are so unfortunate as to be of this small class they will find it of great value to acquire, if possible, the reading habit, and thus supplement their own meagre knowledge by that of all the great horticultural world outside, which journals, like VICK'S MAGAZINE and kindred publications, sift and condense and illustrate and dish up in such a pleasing and digestible form.

Two or three years ago I presented a wealthy friend with a bound volume of this MAGAZINE, thinking it would make a handsome appearance on her center table, but not expecting she would make any practical use of it as the extent of her operations was limited to a large flower bed and a small vegetable garden, mostly kept in order by proxy. One day last summer she displayed some advanced knowledge on the subject of Pansies, and when I asked her where she picked up the idea, she replied, "Why, out of that Vick you gave me," and she added, "I have got many hints out of it, not always on what I look for but generally on some kindred subject, that help me."

Last fall, I was coming home from the State Fair, and a man accosted me with whom I had formerly had a slight acquaintance. I knew of him as a prosperous market gardener in a city near my home, and on entering into conversation I learned that he had started a considerable market garden near Columbus, one hundred and thirty miles from his home, and put it under the charge of a man who had worked for him eight years. How did you come to get on to the fact that Columbus was a good point for gardening, I asked. He replied that he took the *Country Gentleman*, and noticed in one of my reports of the State Horticultural Society, the statement that the Columbus market was poorly supplied with home-grown garden vegetables, and that more gardeners were wanted there. "I went down there, looked over the ground, talked with green-grocers and gardeners, and finally leased a fine tract of Scioto bottom, two miles from the market house, and am doing better than I expected." Had he been one of the rule of thumb disbelievers in book farming, he would not now be successfully running two market gardens, one hundred and thirty miles apart.

I cannot go into making a list of books valuable to the beginner, but in my early days I found great satisfaction in referring to *Rural Affairs*, a work in nine volumes, issued by LUTHER TUCKER AND SON, of Albany, N. Y. Although published a number of years ago and somewhat antiquated as regards tools and varieties, it is full of valuable and labor-saving suggestions, and is the very best compendium of agricultural and horticultural knowledge I know of. With this and one or two similar publications, a couple of horticultural journals and the catalogues of our best seedsmen and nurserymen, a gardener need never be without the advice of the very best minds of the last half century.

When I exchanged farm for the nursery business one of the greatest wants I experienced was that of associates in my own line of business. I still mingled with the farmers around me, and took an interest in the business I had been brought up to, but they could not sympathize with me either in my successes or failures, nor could I compare notes with them so as to gauge my own progress. For such com-

panionship I was obliged to go out of town to meetings of nurserymen and State Horticultural Societies. After plodding along for thirteen years there was a county horticultural society established in an adjoining county and I became a member, and so abundantly does this society minister to my needs that in eleven years I have attended over one hundred of its monthly meetings, sometimes going twenty-five miles from home to reach them.

There is a great difference in organizations of this kind, and I would sooner go twenty-five miles to attend the meetings of some than two miles to that of others. One attended almost entirely by farmers is of less use to a gardener or fruit-grower than one largely composed of the latter classes; but even at a farmer's meeting one can generally learn enough to abundantly pay for the time spent. If there is no local horticultural society it will pay to organize one, if there is enough available timber in half a dozen contiguous townships to form one. The *modus operandi* can be learned by attending one or two meetings of a successful society.

The advantage, on a large scale, of such meetings is to be seen in a marked degree in the Society of American Florists. Started in doubt and with much effort by a few determined spirits, it has reached to the proportion of a thousand members, and although but six years old is a power in the land, and has been the means of the intellectual awakening of scores of florists who never would have known the advantage of travel and interchange of experience without it. At the Chicago meeting of this convention I was walking behind two young florists from Pennsylvania, and I overheard the following conversation:

"Well, JIM, do you learn anything at these meetings?" "O, yes, considerable," said JIM. "Well," said the other, "I don't. There isn't much done to help retail plant growers; it's all about cut flowers, and Roses, and commissions, and things that interest the village florist very little." "That's true," said JIM, "though I have learned something about fighting insects and economical heating; but I pick up many ideas from brother florists outside the sessions, and some way it builds me up. I keep my houses neater than I used to; I am not half so afraid of

my high toned customers as I used to be, and at the same time am able to sell them larger bills."

Recently, at the Ohio State Horticultural Society, I was more than ever impressed with the value of such gatherings to the working gardener. It was so full of the experience of practical men that it was difficult to condense my notes sufficiently to come within the compass of a newspaper that is in no ways close about the space such a report should occupy. The three days' proceedings, taken by shorthand, with papers read, will doubtless fill an octavo volume of more than two hundred pages.

My next letter will give some of my own experience in fitting ground for fruit planting, backed up by the experience of others, as related by them at this meeting.

L. B. PIERCE.

LAST SUMMER'S ROSES.

"There is nothing succeeds like success," whether one wins a battle or has dainty Roses thrive and bloom wonderfully under their petting. Strange, isn't it, that the world has so many plaudits for success, while it pays so little heed to the patient labor that so often precedes both failures and successes.

Last spring I determined to make a grand effort to gratify my long felt desire, and after much studying over catalogues, decided on a Douglass, Hermosa, Paquerette and Perle d' Or as the most desirable. The plants arrived without a wilted leaf the tenth of May, and as their summer home could not be made ready for nearly a week, I followed carefully and with perfect success the directions printed on the box in which they came

I had a wooden box that had been used, a hole was made in the bottom for drainage, the size was fourteen by nine inches and nine in depth; this a friend mounted for me on three legs made of poles about as large as a lady's wrist. The legs had the bark still on them. This made a tripod, some like a milking stool, about thirty-two inches high. This was the frame, the rest I did myself. As the board was very thin I coated the box inside and out with tar, for fear it would rot too quickly, and then nailed on narrow strips of hemlock bark, arranging them so that the longest strips were in the center of the sides and ends, each

piece being made shorter till they reached the corners. The result was a pretty rustic affair that attracted a good deal of attention from its very oddness.

Into this rustic stand I put a couple of inches of wood coals for drainage, then some four quarts of well rotted manure and half rotted leaves and sods, and filled it up with leaf-mold from the side of an old stone wall. In the center I planted a Japan Lily, a rubrum, the Douglass Rose on one side, the Paquerette on the other, and the Hermosa and Perle d' Or one at each end. I pressed the soil down firmly about the roots, clipped off nearly every leaf, watered them thoroughly, kept them in the house a few days, and then set the stand in a sunny spot out of doors.

My friends all prophesied gloomily: "Those Roses will surely die, because you have stripped them of leaves;" but they didn't. Instead of dying they were throwing out new leaf-buds in a week's time, and kept right on growing, the Paquerette rewarding me with three lovely Roses by the first of July.

The season proved so wet that aside from keeping a sharp eye for the few insects that troubled them and giving them a generous meal of manure water twice a week, they were not much care, but an ever present delight. Their exquisite daintiness of form and coloring attracted enough attention to gratify my pride of possession, and I think one of my nearest friends and neighbors took nearly as much genuine delight as myself in them. It was a common thing for her to set down her pail, on her way to the well, to make sure to see any new bud that might have unfolded itself since her last visit the day before. As for myself I just gloated over my riches; I did not fall down and worship them exactly, but I did visit them as soon as dressed in the morning, often by moonlight and lamp-light, and countless times between.

The plants just grew and bloomed more profusely as the weather grew cooler, until those four plants, not over six inches high on the tenth of May, had borne over a hundred full blown Roses.

The Lily grew also, showing its buds when not more than a foot high, and they increased in length till, when they expanded, each of the three Lilies were eight inches across. The very perfection of elegance, they lifted their royal heads

above the Roses, in conscious or unconscious rivalry.

My friends had many prophetic attacks during all this time. "Those Roses will surely bloom themselves to death," was a common remark; but when the first frosts came, in October, they had twenty-five buds, and they continued to bloom after they were removed into the house, for every one insisted that the frosts would blight the buds. Not one of them has died from any cause, the change of temperature from out doors to a warm room did not cause them to drop all their buds. They blossomed so profusely during summer I did not expect winter Roses, but they have put out healthy growth, and on New Year's day the Hermosa carried a fine pink rose, while the Paquerette had a bud.

This is the story of my Roses. I opened my heart and gave them a warm welcome, and they have charmed me when glad and soothed me when sad. Ah, often have my mute Roses proved the truth

" That flowers are living preachers,
Each cup a pulpit, each leaf a book."

C. H.

EVAPORATING FRUITS.

In an article in the *Medical Age* of October 25th, JOEL W. SMITH, M. D., of Charles City, Iowa, points out danger from bleached dried fruit.

" Bleaching is done by exposing the green fruit to the fumes of burning sulphur in the evaporator, or, quite as often, before it is placed in the evaporator, the time of exposure to sulphur vapor varying with the degree of whiteness desired."

* * * "Are bleached dried fruits ever poisonous? Germany answers that they are. After repeated chemical examinations of American evaporated dried apples, zinc—poisonous in very small quantities—was found to such an extent in the samples that such fruit was ordered destroyed, and a decree issued forbidding future importations unless accompanied by a chemist's certificate that each lot or invoice was free from injurious substances. Such action—as there is no competition with such fruit—may well set the American public to thinking, and better, to some acting against the bleaching of fruit."

The zinc is supposed to be derived from the zinc trays in use in evaporators.

The sulphurous acid from the burning sulphur is changed in contact with air and water into salphuric acid and this acts upon the zinc.

The writer also thinks that the bleaching injures the flavor of the fruits, and, for this reason, many people have given up the use of dried fruits. The writer concludes that "bleaching and tampering with fruits is calculated to injure if not destroy this important industry, which should now be only in its infancy. These views help explain the 'over-done' evaporator business of 1888."

A NEW VARIETY OF APPLE.

A specimen apple has been received from E. J. CARR, of West Hampstead, N. H., which Mr. C. informs us, by letter, is from a seedling tree. He has named the variety Carr's Surprise, and the following is his history and description of it:

About twenty years ago I noticed a small Apple tree growing in the field, near a stone fence. It was four or six feet in height. As it was not in the way in cultivating the field, and supposing it a common Apple, I did not pay any attention to it till it commenced to bear fruit, which was about eight years ago. The Apples are large; in shape they resemble the Blue Pearmain, but while the Pearmain is pleasant to the taste, Carr's Surprise is rather sour, or sub-acid, and is an excellent cooking Apple. The flesh of many of the Apples are streaked with red, hence the name.

It is an annual bearer, and is enormously productive. In the year 1888 the tree produced about ten barrels of Apples. The tree was completely loaded with beautiful Apples, many of the branches bending to the ground, forming the grandest sight that I ever beheld. As a keeping Apple it is unsurpassed. I have kept it in good condition till midsummer. The tree is of beautiful shape, very vigorous and hardy, in this respect it surpasses the Baldwin. I exhibited six specimens of Carr's Surprise Apples at the New Hampshire State Fair in 1889, and was awarded a Special Premium.

The single specimen received was above medium size, flattish in form, three inches in the transverse, and two and a quarter inches in the axial diameter, irregular or somewhat shorter on one side; color, streaked and splashed with different shades of dull and darker red on a greenish-yellow ground, on the exposed or sunny side a heavy mahogany red, splashed and striped with dark maroon, and an extended splash of grayish and greenish russet around the stem; stem of medium length and thickness; cavity smooth, nearly regular; calyx large, open, set in a shallow and but slightly irregular basin. Flesh yellowish, with a

pink tinge beneath the skin, and traces of pink deeper; rather coarse, sub-acid, pleasant. But the real quality could not be judged by the specimen as it was mealy and evidently had been kept too long or else improperly. Its early maturity may be due to the unseasonably warm weather of the autumn and winter. With the keeping qualities ascribed to it by the originator it should be valuable.

AN AMARYLLIS INQUIRY.

In reply to F. C., of Fredericktown, Ohio, we cannot say from the description of your Amaryllis what variety it is. But the treatment, under the circumstances, should not be difficult to understand. Despite all efforts you have employed to the contrary, the plant persists in growing and blooming. We do not understand your desire to bring the plant to rest. Let it grow while it will, in time it will cease, and this you will perceive in change of color in foliage; and then it will be time enough to commence shortening the water supply. But first the plant must reach its full development.

HARUM SCARUM.

A correspondent alludes to "Myself" as follows:

I have received "Myself" and am highly pleased with it. Mrs. AREY's charming poem brings my own childhood to my mind, for I, too, was a lone, "harum scarum child." A dreamer and lover of rural scenes, but wilder than her, if climbing trees and riding horses bareback would be accounted as wild.

THE VINE DISEASE.

The vine disease of Southern California, which has prevailed for the past two years with great violence, is said to be losing its power, and it is thought by some that it will run its course and cease entirely after a time.

The American Garden for January is out in new form. It is to be congratulated on its very tasty appearance. We wish it abundant prosperity, and it is well deserved.

FRIDAY, the 17th day of January, by appointment of the Governor, was observed as Arbor Day in Florida.

A LETTER FROM TEXAS.

An interesting letter from one of our correspondents, Mr. SPANGLER, of Galveston, Texas, we should publish in full if space allowed, but we are obliged to economize room, and give the following extracts:

The past year has not been a success with me, as a whole, in flowers. Living on a "sandlot" near the beach, a drouth during the summer played havoc with most kinds of flowers. The Portulacca was an exception, and the bed was brilliant with very double flowers for months. The Abronia was another exception, that is the *A. umbellata*. The *A. arenaria*, or yellow, was a failure. In fact, I have never been able yet to get a bloom from the yellow, though a plant is still alive, grown from seed sown last spring. I had half a dozen plants of the yellow while of the lilac I got but one to come up, but such a one as one seldom sees. During the summer it covered a round bed about three and one-half feet in diameter, and since last May has bloomed continuously. Just a few minutes ago, on the 30th of December, from the window, I counted seven blooms on the bed, and I do not think there has been a day since last May when one or more blooms were not out.

Allusion is made to the mild weather:

From the middle of November until last evening, when a norther began blowing, the weather has been warm and spring-like pretty much all over Texas. Trees and shrubs have put forth new leaves and buds as in spring, while vegetation of all kinds has felt the influence of a genial sun and warm breezes. I send you a clipping from the Galveston *News* of December 27th, headed "Christmas Strawberries," and will say further that the same gentleman, Mr. DURANT, presented the ladies of an editorial excursion party from Kansas with boxes of Strawberries freshly gathered, Saturday night last, probably as great a surprise to them as anything they had seen on the trip.

The Chrysanthemums were a great success in the city, as a rule, and perfect masses of flowers were to be seen during November and December in many yards in the city. The same was the case in San Antonio.

Having visited San Antonio, he writes:

I think, as a whole, the residences of the wealthier classes have more room in San Antonio than in Galveston, and more space for lawns. The roses did not appear to be so abundant as here, but it may be that the grand display of color by the chrysanthemums in full bloom overshadowed the roses for the time being.

Of course, one of the first things a person hears of after coming to make his home in Texas is the Alamo. No Fourth of July oration in Texas would be complete without reference to the Alamo and San Jacinto. As a matter of course one of the first places I visited in San Antonio was the Alamo. And then I began to understand how a mere handful of men could hold out against the thousands of Mexicans as Travis and his men did in that building. Built of rock, and solid as a rock, with walls six feet thick, or more, the old mission building was a veritable fortress in itself. Those old Spanish missionaries knew how to build for war with the savages, as well as how to teach them the doctrines of the Prince of Peace, and their missions were "put up to stay."

The prickly pear flourishes everywhere around San Antonio, and a running cactus, of which I do not know the name, but very full of sharp, needle-like thorns. Then there are two varieties of cactus growing plentifully in the neighborhood, round or oval in shape, and some of them said to be almost constant bloomers. These do not seem to attain a large size, eight or ten inches in diameter being the largest I saw. Of course the height is not so great as the width in the larger ones. They are generally found growing among the chapparel, a brushy wood that covers much of the land around the city. Mesquite is also found plentifully. The body of these cacti is soft, but not what you would call spongy, and no crevices or cells are apparent to the naked eye when cut open. They seem to some extent to be subject to a disease that attacks the under side and completely hollows out the interior, killing the cactus. I only judge from what I saw of them in the wild state, and do not know but the holes may have been made by some insect; but as I saw them in different stages of decay, from a small hollow half an inch deep to a mere shell of the cactus left, and saw no insects in the cavities of any of them, I concluded that it must be a kind of dry rot.

SUNSHINE AND SHADOW.

A brown bird sat on a willow tree,
And sang of his pretty home to be,

To me:

Then went to work with a hearty will,
And caught up straws in his wee, brown bill,
Feathers and bits of "moss to fill"

A nest for the wife and babes to be.

A sweet bud peeped from her cell to see
The light, and promises fair gave she

To me.

Of a fragrant bloom beside our door,
Fair harbinger of a hundred more
That parent branches reserved in store

For gladsome, glorious days to be.

I stood in the sunshine, glad and free,
And watched the builders across the lea,

Ah, me!

I dreamed of love 'neath a cottage roof,
And planned a web with a shining woof,
A home, from bickerings kept aloof,

Though the busy workmen didn't see.

* * * * * * * *
The bird that sang in the Apple tree,

And told his love to the winds and me,

And she

Who hovered above the nestlings bare,
And tended them, night and day, with care,
The hand of the fowler could not spare,

And the babes starved cruelly.

And the bud that promised so much to be,
And the hundred more ne'er bloomed, you see,

The tree

Was blighted. A worm lay under its root,
It withered. They trampled it under foot,
And raked it in amid muck and soot,

A thing of the past. Ah, me!

This morning I rose from a bended knee,
And looked at the cottags across the lea,

Ah, me!

I hold no title to wall or roof,
And the web I weave has a darkened woof,
For death has checked with a stern reproof

The promises love gave me.

MRS. M. J. SMITH.

BULBS IN GEORGIA.

A number of northern plants when removed to this section of the South, Northern Georgia, change their habits in a somewhat remarkable manner. For instance, *Lilium candidum* blooms in May, soon afterwards, when the weather becomes hot, the foliage dies and the bulbs remain dormant until in September, when we get some fall rains and cooler weather, when they commence to grow strongly and continue to do so all winter, but with some checks from the frosts. This, I think, is different from their habit North. Early in October I planted a number of *Fritillarias* and a couple of *Ornithogalum Arabicum* bulbs; in two or three weeks they were all up, which compelled me to pot them and place them in a cold pit to prevent them from being winter killed.

One season I lost all my *Lilium longiflorums* by their being winter killed. Since then I have kept them dry in the house, which causes them to shrivel some, until late in the fall when I plant them; then they don't come up until spring and are safe. The *Iris Susiana major* comes up strong in the fall, and gets winter killed unless I pot it and place it in the pit. Would it do for me to take it up and keep it dry during the summer while it is dormant and plant it out late? I would prefer to have it in the open ground. The *Duc Van Thol Tulips* and other early Tulips, also the *Crocus*, often come up during some pleasant weather in January and get ruined later by severe frosts. I suppose there is no remedy for this; if you can suggest one many here would be glad to know it. The case is the same with the Snowdrops, *Scillas*, *Ixiias*, etc.

From this you see we have some trouble to contend against here, also, even if different from those at the North. But we have, also, many advantages in climate over you, for instance, a cold pit supplies the place of a greenhouse very well; during all last winter I had to keep my pit closed up only some four or five days, the balance of the time the sashes were more or less open. Others, as well as myself, will be glad of any advice that you can give us through your valuable MAGAZINE.

I take the liberty to enclose a specimen of a shrub that I have here for a name; it is called "Purple Fringe," incorrectly, I think. It is hardy and always in bloom. *J. T. N., Rising Fawn, Ga.*

The proposed method of operating with *Iris Susiana*, that is, to take it up and keep it dry during summer, is the proper one. That is the way we treat it here.

We do not know of any way to prevent bulbs starting early in mild winters.

The specimen of plant received we do not recognize; it is not what is commonly known as the Purple Fringe or Smoke Tree, *Rhus Cotinus*.

NATIVE WILD FLOWERS.

The December number of your MAGAZINE contains an article entitled "Garden Spoils from Autumn Woods," in which the Cardinal Flower and the Partridge Berry are particularly praised. Can either of these be obtained from the florist? and if so, what florist? I think I have seen the Partridge Berry growing wild when I was a child; but the Cardinal Flower I have never seen, nor do I think it grows in southwestern Ohio at all.

Allow me to make a suggestion. A colored plate

representing the Cardinal Flower, the Partridge Berry and the Blue Gentian (any or all) would delight your readers beyond measure, I am sure, both by gratifying a refined curiosity and by elevating these wayside beauties to their proper place. Living within six miles of Cincinnati, I have viewed with sorrow the ruthless destruction of our lovely wild flowers. Many of them, I know, could be not only rescued but improved by transplanting to our gardens. The delicate Hepatica, which in its native woods is a straggling plant with a few scattering flowers, becomes under cultivation a mass of bloom.

MRS. J. O. MARSH, Madisonville, Ohio.

The seed of the Cardinal Flower can be procured of seedsmen, but we think not the others. We are glad to have this suggestion of a plate of wild flowers, and sometime in the future may make it available. We cannot any of us interest ourselves too much in our native plants, for there are many treasures in store there at all seasons.

SEEDING OF TEN-WEEKS STOCK.

Does the Double Ten-Weeks Stock seed? I had plenty of flowers, but could find no seeds. *R. B. S.*

In the case of flowers in so unnatural a condition as the Double Ten-Weeks Stock, their seed production depends upon artificial cross-fertilizing, and this can be practiced successfully only by those of experience in the art. The amateur cultivator should not expect to obtain seeds.

GARDEN HEDGE ; CLIMBING ROSES

A correspondent at Kansas City, Mo., inquires as follows:

Please inform me what would be the most suitable plant to use for a garden hedge, forty feet long? It must be low, not over thirty to thirty-six inches, and at the same time that could be used for the flowers or foliage by a florist. And, at the same time, what climbing Roses can be used the best? I want to train some over a long porch front. I want the best for cutting purposes. *W. S. B.*

The Japan Quince is the most valuable of all the flowering shrubs for a hedge plant. It is of vigorous growth, handsome foliage, well armed with spines, bears clipping well, and produces large quantities of handsome scarlet flowers in spring. To what extent these flowers might be utilized by a florist we cannot say. The Privet is a well-known and valuable shrub for a low hedge, quick growing and handsome, and bears clipping well. Other varieties of shrubs, with proper treatment, may be used for hedging, but the above-named are the best.

For Climbing Roses, the Prairie Roses

are the best, and of these, Queen of the Prairies, Baltimore Belle and Gem of the Prairies are the most desirable.

A QUERY.

I wish L. S. L. M., who wrote the article "Easily Grown Plants," in the November number, would tell us how she manages Carnations. We are great lovers of them but have no success with them, either in the house or in the garden. Please tell us what kind of soil to use, and which variety blooms most freely. Our living room, where most of our plants are, is heated by an old-fashioned fireplace and is necessarily cool. Primroses do well and Geraniums bloom freely towards spring.

JOSEPHINE BIDWELL.

THE GRAPE DISEASES.

At the late meeting of the New Jersey State Horticultural Society, Mr. PEARSON, whose labors in the trial of the Bordeaux mixture and eau celeste in connection with the mildew and rot of grape vines, claims their efficiency in the destruction of these fungi, if applied properly and sufficiently often. "The Bordeaux mixture has proved entirely effective, if not as a remedy, at least as a preventative. Some of his neighbors tried it, but on investigation he found they had used copperas (sulphate of iron) instead of sulphate of copper (blue stone). There can be no more doubt about this matter. The spores of the diseases will not germinate in the presence of the minutest quantity of copper sulphate. When once in the tissue, however, they are safe. There are some 'ifs.' If rains wash off the application, and the plants are left without protection even for a few hours while the atmosphere is filled with spores, these will find a foothold on the plants and remain there.

"Some people saved their grapes by these applications, but they put the remedies on in such a way that the latter, adhering to the fruit, spoiled its appearance. The mixtures in such case can be got off the grapes by dipping them in a weak solution of vinegar, and in clear water afterwards. The fruit can also be cleaned by spraying it with a solution of one pint of sulphuric acid to forty gallons of water."

The formula for making the Bordeaux mixture, as used by him, is as follows:

Dissolve 6 pounds of pulverized copper sulphate in 2 gallons of hot water. In another vessel slake 4 pounds of fresh lime in 20 gallons of cold water. Let the lime settle, draw off the clear lime water, and mix with the copper sulphate solution. The ammoniacal carbonate of copper solution is prepared by dissolving 3 ounces of carbonate of copper in 1 quart of ammoniacal liquor, and dilute with 22 gallons of cold water.

The objection that these remedies are poisonous, and possibly injurious to the consumer of grapes, Mr. PEARSON met by saying that a person would have to eat about one ton of fruit to eat two grains of copper sulphate, and more than this is frequently given by physicians at a single dose.

Notwithstanding the very decided position of Mr. PEARSON, we must hold that fruit that has been mixed in solutions of vinegar and sulphuric acid will not command a first-class position in market as table grapes. They will have a mussed, cloudy appearance, and purchasers will quickly come to understand the character of the fruit, and give it the cold shoulder. The peculiar weather conditions that have prevailed the past year, and which apparently are to continue throughout this season, whereby a high temperature combined with an unusual amount of moisture, have been exceedingly favorable to the germination, propagation and spread of the fungi which injure the grapes. This peculiar weather will in time pass away, when the causes of it shall also have disappeared, and with a return to normal climatic conditions those localities at the North which have heretofore been exempt from these vine diseases will, without doubt, again be free from them. At the South they have always prevailed, more or less, and probably always will.

But, in the meantime, what can we do with the preventive remedies to help ourselves? We can use them early in the season on the naked vines, and up to the time the vines come into bloom; this will have some effect; their further use is a choice of evils, and each one must select his course for himself.

THE new Rose, Duchess of Albany, a sport of La France, appears to be making its way into general favor.

WILD FERNS.

The following note, by WILLIAM FALCONER, in the *American Florist*, is of interest:

Some weeks ago I sent the wagon out into the woods around here, and brought in quantities of *Aspidium acrostichoides* plants carrying fine bunches of perfect fronds, and packed the plants close together, but quite orderly in deep frames which I can get at easily any time during winter. I like the sterile better than the fertile fronds. By getting them in October, or early in November, we get them while they are in perfect form; if we delay till December they are apt to be a good deal broken. Very nice things to cut from in winter and a saving on greenhouse fern fronds.

AGRICULTURAL GRASSES.

A new and revised edition of the "Agricultural Grasses and Forage Plants of the United States, and such Foreign Kinds as have been introduced," has just been issued by the United States Department of Agriculture. This valuable work by Dr. GEORGE VASEY is intended and will be useful to the practical stock raiser and ranchman. One hundred and fourteen beautiful plates of the grasses and forage plants assist in identifying the various species. The work also contains an Appendix on the Chemical Composition of Grasses, by CLIFFORD RICHARDSON, and a glossary of terms used. The work is well done in all respects, and is an honor to Secretary RUSK.

SEED TIME.

Gardening in Florida is now passing into its second stage, for a large breadth of vegetable seed sowing was done last month. The present month truckers will continue to plant Irish Potatoes, sow Peas, Turnips, Cabbage and other handy kinds

of vegetables. The hotbeds will be in full use in pushing along the more tender plants. Beans, Corn and Sweet Potatoes will now also have attention. The planting season will now advance rapidly in the Gulf States, and before many weeks the country will everywhere be busy, more or less, in the crops of the coming year. A good time now to complete any odd job left unfinished.

POSTAL RATES.

A desire is becoming prevalent throughout the country that any kind of merchandise that is marketable should be allowed to pass through the mail at what is called third-class rates—that is at half a cent a pound. We believe that the government would greatly benefit the public, as well as add to its revenues eventually by adopting this change. Postmaster General WANAMAKER is in favor of it, but it is vigorously opposed by the express companies. People everywhere should write to their representatives at Washington and urge the change.

A STATE PARK.

A large State Park in the Adirondacs, in this State, is proposed by Governor HILL. The size mentioned is seventy-five to a hundred miles on a side, and including all the lands lying about the head waters of all the rivers rising in that region, and including the Hudson. It is to be hoped that this idea may be developed and put into practice for the good of the whole State.

ICE CROP.

It is reported, this 20th of January, that ice can now be cut on the Kennebec river. In all this region of Western New York, and, as for that, any part of this State or Pennsylvania, there is no ice yet formed. Perhaps it may yet.



OUR YOUNG PEOPLE.

JIMMY'S CHANGE OF FORTUNE.

Mrs. Hodge's neighbors had gathered around her bed to see her die.

Mrs. Hodge had periodical attacks of dying. This time she had made unusual preparation for the crisis, and hence her present condition seemed correspondingly critical—seemed, in fact, as an unfeeling bystander whispered to his wife, as though she were going to make it this time.

Heretofore, poor, homeless Jimmy, the half starved boy-of-all-work, had taken advantage of these periods to fully appease his hunger three times a day. Himself and Mr. Hodge having to cater for themselves as well as for the invalid, had, of course, opened sealed up delicacies to tempt her appetite, and had easily disposed of what was left at their own meals.

Such reckless waste of her sugared and spiced delicacies had so exasperated the prostrate woman as to act like a tonic in restoring her wonted energies and getting her on her feet again to look after her precious stores. (Indeed, there were people bold enough to assert that she was stingy to meanness.)

This time, however, she had locked up her canned fruits, jellies and sweet pickles and "lost the key." Then, declaring that she was nearer wore out than ever before, and that nobody keered if she was, and the sooner she was out of the way the better, she betook herself to bed, having first deposited in its feathery depths a bulky parcel of cheese, dough-nuts and fried sausage.

Thus fortified, she could leisurely take her own time for dying without suffering the pangs of hunger or being harrassed by household anxieties.

From the first she was too prostrated to have her bed made, at the same time refusing to eat or even to see a doctor if one were called, declaring it was then too late—that she'd been allowed to slave herself into the grave, and that the sooner she were put there the less trouble she'd make.

In vain her husband had repeated his

regards and regrets, the same being reiterated by poor Jimmy; she only shook her head in a hopeless way, with eyes closed, whispering faintly, "Too late now, too late. If you don't want to be here alone at the last, you'd better send for somebody to come in."

So now she is surrounded to her liking. The sensation is nearly at its height. If only somebody would weep and wail, she thought, or even cry a little, as though from real sorrow at the prospective loss she could be almost resigned to—get well again.

Her husband sat near by with bowed head, as usual on such occasions; while Jimmy, trying to forget the many times she had looked at his emptied plate and told him he'd eaten enough now, and to go to his work again, pressed his dirty handkerchief against his eyes and tried to squeeze out a tear or two as the proper thing to do at so solemn a time.

The impending crisis seeming long delayed, the boy finally felt obliged to slip out and see to the chicken that was stewing for dinner, the water from which Mr. Hodge had said would furnish nice broth for the sick one. He wondered if she would live to eat it.

With the opening of the door the odor of the savory chicken had floated in to the very nostrils of the expiring woman. It had not before occurred to her that her hen roost could be invaded. How many of her precious fowls had been already sacrificed, she wondered. Every one of them extra good layers, too, and eggs twenty-five cents a dozen that minute. That greedy Jimmy should suffer for this. She'd get well to punish him, if for nothing else.

With such perturbed feelings surging through her it was an easy matter to pass into a state of hysterical gasping and suffocation, simulating the last act of the drama. She motioned spasmodically to have her head raised, and though her assistants thought her breath smelled rather cheesy, they kindly attributed it to

her diseased condition, feeling some twinges of conscience at their previous incredulity.

As the smell of boiling chicken more fully pervaded the room the hysterical gasps increased accordingly, until the end seemed indeed to be very near. Taking her husband's hand for a few parting words, she gasped :

"Good-bye; don't worry about me—when I'm gone. You kin find somebody—to keep house for you—better'n what I've done. Don't let things—go to waste; be savin' of the butter—an' make Jimmy eat gravy on his taters. Now give me—some brandy — to help me breathe easier."

If this scene and these exact words were not a bit of veritable domestic experience they would seem too absurd to find a place here. As it is, we must follow Jimmy's fortunes a little further. He had been sitting with attention divided between the fearfully threatening sky without and the dying woman within, when he was suddenly petrified with amazement that one in that condition could have a thought or concern for such small, worldly matters. Not only this, but his whole soul instantly revolted to think that *he* should have been the especial subject of such a charge—he who had served her faithfully, never complaining to any one of being overworked and underfed.

The new sense of indignant repulsion toward the woman absorbed him until he noticed that her gasping had abated and she was whispering that the stimulant had revived her.

"I'll bet the old thing'll get well yet," he thought in his bitterness, but thought no more on that subject, for at the same moment a roaring and rushing of wind filled the air, making even the dying woman open her eyes in alarm. The air in the distance was filled with flying debris, and while the startled company were saying to each other that they were in the edge of a cyclone a crashing, splitting sound was over their heads; the house shook, the dying woman screamed and leaped to the floor with surprising agility (but bethought herself to fall into her husband's arms), and the next moment the corner of the roof and ceiling over the bed had disappeared, except such

splintered portions as were driven within, followed by torrents of rain.

Such a demonstration as this by an Unseen Power was enough to knock the nonsense out of any one whose brain could evolve any other kind of sense. But the rain having suddenly ceased and anxious neighbors gone to their homes, Mrs. Hodge rallied her forces without ceremony, assuring her husband that it was the stimulant that had saved her life, reminding him that she'd had to call for it herself, while a lot of people stood around to see her die, doing nothing to prevent it.

Then, going to the kitchen, she encountered Jimmy, and laying her hand in his hair, she gave his head and neck such a shaking and twisting as not only hurt and angered him, but amazed him at the amount of energy possessed by a newly resurrected being. Then, snatching the kettle of chicken from the stove, she deposited its contents in the pantry and issued therefrom with burning invectives for Jimmy.

But Jimmy had disappeared, and she never saw him again.

The patient Mr. Hodge, with his usual meekness, added to renewed travail of soul, set about promptly to do his wife's bidding in clearing up after the storm. When called to his cold dinner she inquired what he thought had become of her best laying hen—old Speckle—her special favorite that she had smelled cooking when she was so ill. He answered just as any peace-loving husband might have done—that he supposed it must have been whisked away in the cyclone. To this she only muttered, "Fool," and retired to the pantry to eat her dinner.

But Jimmy—what had become of him ?

Striking straight across the country to avoid meeting any one who might recognize him as the subject of that dying injunction, he experienced a dawning sense of manhood and independence that made him indignant at the small tyrannies to which he had been subjected, while the oft repeated simulations of immediate demise that he had witnessed now filled him with nauseating contempt. If only so many people had not heard that last charge, he thought.

He did not realize that Mrs. Hodge's

scrimping, stingy ways were well understood and her words interpreted accordingly. It had even been said of her that she skimmed her milk on the top and then turned it over and skimmed it on the bottom. But Jimmy was unconscious of this estimate of her in the community, and suffered accordingly.

Trudging along, shivering with cold, he was soon aware of a vacuum in the region that was to have been replenished by certain carefully dissected and cooked portions of Old Speckle. But that was soon forgotten upon finding himself in the very track of the cyclone, the evidences of its destructive work increasing as he advanced.

Turning aside, he soon struck the highway leading to the county seat. There he found a general wreck of buildings in one end of the town, and excitement and dismay everywhere. Workmen were removing the fallen mass at different points where the tempest had not swept the ground clear already.

In one place a falling wall and a roof from across the street had so come in contact as to uphold each other directly over the counting-room of a business house, a son of whose proprietor was at his desk at the time of the wreck. The distracted father and his assistant were trying to remove the debris piled up between them and a hidden window without jarring the tilting roof and wall, lest the mass should go crashing into the space below.

Jimmy surveyed the situation with feelings of awe and dismay. Never before had a sense of Divine Power overwhelmed him as then. "The same air we breathe and can't live without," he thought, "air that we can't see nor even feel unless it's in motion—this same air, when the Almighty's forces set it going can sweep everything before it."

Then, for the first time in his life, a great craving filled his heart that he might live a life in conformity to Divine law. This secret craving of Jimmy's was a prayer—as real a prayer as any made on one's knees, expressed in words. But he did not know this as he still stood there longing with all his soul to be of some use, right then, in helping to extricate the imprisoned man.

Looking the situation over keenly, he marked the bearings of salient points and

hurried around to the opposite side. A medley of criss-cross timbers supported a huge mass, through which many openings and spaces could be seen.

Jimmy at once began to climb up and over, around and through, down and under, till, lo, he found himself looking into a cellar. A ray of light revealed a stairway, and leaping down he ascended it into a dark, narrow space, with obstructions on every side. Fumbling for a match, he found some that had been left that morning after singeing Speckle over a paper blaze, and lighting one, he saw near by the upper half of a heavy door, blockaded below by a heap of brick and mortar. Scrambling over a pile of broken porcelain and bric-a-brac he reached the door, and calling, he heard a voice exclaiming: "Thank Heaven, I'm to be saved after all."

Jimmy's heart beat hard and fast with joy that he had indeed been able to be of use where help was needed. He and young Carson—the imprisoned man—lost no time in learning each other's situation and surroundings. Carson was suffering intensely from a broken arm caused by a mass of material that had crashed through the window and half filled the room—a part of the same mass of material that his father at that moment was laboring to remove, as the nearest way to reach him.

Carson had directed Jimmy where to find a coal shovel and hatchet in the cellar, and he was soon fiercely at work shoveling away the obstruction against the door, Carson bracing his back against it to push his way out at the first possible moment.

At last the two passed down the stairway together. Jimmy placed a box against the wall from which Carson climbed to the top with difficulty because of his helpless arm. Jimmy followed after, and then went ahead seeking the best way for Carson, using his hatchet to enlarge narrow spaces, cutting away projecting splinters, working like a beaver to clear a passage where both had to creep through, until, at last—O, joy, at last—they emerged into the free, open world once more.

Pale with pain, Carson sat down on a broken door, leaning against he knew not what, and sent Jimmy for his father. The boy ran as though Mercury had lent

him his winged feet. Mr. Carson looked around in a dazed way when hearing a youthful voice telling him that his son had sent for him. He looked at the stripling incredulously, repeating, "My son has sent for me? My name is Carson. My son is buried in the ruins here."

"All right," said Jimmy, "your son just came out on the other side, and wants to see you, sir, double quick; and he wants a rig to take him home, he's hurt his arm."

An order for a vehicle was given, and then Mr. Carson and others followed Jimmy. Such a meeting as that was between father and son!

"Where did you find this boy?" presently asked Mr. Carson.

"I didn't find him at all; he found me. It's a long story, you shall hear it later. He must go home with us, for he's nearly

dead from over-exertion and needs attention."

When young Carson's coat was unbuttoned to get at his arm, out dropped a large Valentine.

"I was writing this for the mail when the crash came," he said, handing it to a friend of his father's, who saw his daughter's name on it, and buttoned it in his own coat for safe delivery.

Later in the day, when Jimmy's story, amplified by young Carson, had been heard, this same gentleman said:

"I announce, in presence of this company, that on this the 14th day of February, I claim this noble-hearted Jimmy for my Valentine. I have no son. My daughter will love him as a brother for this day's work, and he shall be to me as a son indeed."

MARIA BARRETT BUTLER.

SWEET VIOLETS.

O, Violets! sweet Violets!
You hide your winsome faces
In sweet, secluded, sunny dells,
And sheltered, wildwood places.

The bees, blithe heralds, lead the way,
And blow their bugles fairy,
To guide the children whither blow
Your blossoms, light and airy.

And they, all o'er the mossy bank,
Send little fingers straying
To find where all your blossoms, blue,
At hide and seek are playing.

And one sweet child, whose azure eyes
Search all the wildwood bowers,
Lisps, "Spect the angels breathed on them,
To make so sweet these flowers."

DART FAIRTHORNE.





BARONESS ROTHSCHILD.

WHITE BARONESS.

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